

106061

JPRS-KAR-88-006  
1 MARCH 1988



**FOREIGN  
BROADCAST  
INFORMATION  
SERVICE**

# ***JPRS Report***

## **East Asia**

***Korea***

Reproduced From  
Best Available Copy

**DISTRIBUTION STATEMENT A**  
Approved for Public Release  
Distribution Unlimited

19991007 093

REPRODUCED BY  
U.S. DEPARTMENT OF COMMERCE  
NATIONAL TECHNICAL  
INFORMATION SERVICE  
SPRINGFIELD, VA 22161

10  
44  
A03

# East Asia

## Korea

JPRS-KAR-88-006

### CONTENTS

1 MARCH 1988

#### INTER-KOREAN

DPRK Daily Calls for South's Reply on North-South Talks .....	1
KCNA Charges Seoul Fabricated KAL Bombing Incident .....	1
DPRK Foreign Ministry Claims Discussion 'Unreasonable' .....	4
Hong Si-hak Attends Hamhung Rally Denouncing 'Team Spirit' .....	5
Kim Il-song University Rally Scores 'Team Spirit' .....	5
KCNA Reports Mass Rallies Denouncing Projected 'Team Spirit' Exercise .....	6

#### OLYMPICS

NODONG SINMUN Urges Accelerated Kwangbok Street Construction .....	7
--	---

#### SOUTH KOREA

##### POLITICAL

Opposition Parties React to DJP's Interest in Small Constituency .....	9
Studies of Presidential Election Result Reported .....	11

##### ECONOMIC

National Land Development Plan Announced .....	13
Rising Won Value Calls for Country's Economic Reform .....	15
Economic Tasks for 6th Republic Discussed .....	29
Research Team Finds Natural Gas Layers Near Busan .....	31
Discovery Announced .....	31
Impact Of Discovery .....	32

##### SCIENCE & TECHNOLOGY

Ministry of S&T Surveys Research, Development Activities .....	33
FA Research Association Organized .....	34
Comprehensive Promotion of Computer Education Stressed .....	34
Ssangyong's 3-Stage Plan To Construct Group VAN .....	34
Mobil-Phone Production in Full-Scale Operation .....	35
Computerization of Shipbuilding Design, Production Stressed .....	35
Development of Device for Rapid Heat Treatment .....	36
Silicon Pressure Sensor for Gas Flow Measurement .....	36
Uranium Extraction by Bacterial Leaching Possible .....	36

#### NORTH KOREA

##### POLITICAL

Pak Song-chol, Kang Hui-won Attend Juvenile Corps Meeting .....	37
---	----

##### ECONOMIC

Collectivism Seen as Solution to Rural Question .....	37
Major Projects Record 'Big Progress' .....	39
Boiler Begins Operation at Pyongyang Thermal Power Plant .....	40
KCNA Reports on 'Successes' in Construction .....	40

##### SCIENCE & TECHNOLOGY

Technical Innovation Brigades Reported Making Progress .....	40
--	----

**DPRK Daily Calls for South's Reply on North-South Talks**

*SK070838 Pyongyang KCNA in English  
0830 GMT 7 Feb 88*

[Text] Pyongyang February 7 (KCNA)—If the south Korean authorities are really interested in the national reconciliation and unity and want the realisation of the earnest desire of all fellow countrymen for reunification, they should look straight at the situation, give up confrontation and war racket against us, affirmatively respond to our peaceloving, patriotic proposal for a north-south joint conference and move to see a preliminary meeting opened.

NODONG SINMUN today says this in a commentary entitled "We will watch moves of south Korean authorities".

The author of the commentary says:

The south Korean side has not yet replied even now when almost a month has passed since it took over the letter which was adopted at a joint meeting of the DPRK central people's committee, the administration council, all the political parties and social organizations and the date of the preliminary meeting proposed by us is near at hand. worse still, the south Korean side made public the fabricated "results of investigation" into the KAL incident and has since frantically conducted an anti-DPRK smear campaign and announced the plan to stage the "Team Spirit 88" joint military exercise to bring the situation of the country to a brink of war.

The traitor Chon Tu-hwan in an "interview" with foreign reporters at "Chongwadae" claimed that north-south dialogue might be resumed in the early 90s. He thus took a negative attitude towards our proposal for convening a north-south joint conference, revealing his anti-dialogue, anti-peace stance.

This is, in fact, a challenge to our proposal and a declaration of openly rejecting dialogue and reconciliation with the north and reunification.

Political parties, social organisations, personages and people of all segments in south korea who worry about the future of the country and the nation and desire reunification should positively turn out in the struggle to open a bright prospect for the reunification by convening a north-south joint conference, in response to our patriotic call proceeding from a single desire to save the nation.

The anti-communist fascist moves and war racket launched by the south Korean rulers at the instigation of the united states are wholly contrary to the demand of the prevailing situation and our people's desire for peace and reunification.

We will watch the moves of the south Korean authorities.

**KCNA Charges Seoul Fabricated KAL Bombing Incident**

*41000016 Pyongyang THE PYONGYANG TIMES in English 23 Jan 88 p 7*

[Text] On January 15, the Korean Central News Agency was authorized to issued a statement as follows:

All the Korean people hope that this year will be a historic year in which new advances will be made in achieving national reconciliation and unity between north and south. The peaceloving people of the world also hope that the tense situation on the Korean peninsula will be eased this year.

Contrary to this desire of all Koreans and people throughout the world, however, the south Korean rulers have been staging an anti-DPRK vilification campaign, deliberately worsening north-south relations and aggravating the confrontation within the nation from the beginning of the new year.

The south Korean puppets published, on January 15, what is called the "results of investigation" into the passenger plane incident which took place at the end of November last year. Ultimately, they shamelessly laid the blame for the incident at the door of our side. In the "investigation results" they described a man named Shinichi and a woman named Mayumi who possessed Japanese passports as "operatives" of the north and made an announcement to the effect that the plan was blown up in midair by them.

The "investigation results" are outright lies, deceit and self-contradiction.

When the KAL jetliner incident took place last year, we made clear that the incident had nothing to do with our Republic. When the puppets escorted the woman Mayumi to Seoul from Bahrain, we predicted that they would concoct some accusations against us.

The "investigation results" published after the passage of some considerable time are exactly the same as what we predicted and what the people foresaw.

The puppets changed the names of the two Japanese passport bearers into those of Korean and invented their address and personal history to insist that they were "operatives" from the north.

But there is no people in the north with such names and personal history.

In an effort to connect the woman named Mayumi with us, they refer to her school career. But her name cannot be found in the register of any primary school, middle school or university in Pyongyang. Neither is there any university or training centre where she received "special training" as they insisted.

They went so far as to claim that she is 26 years old and was selected in February 1980, when she was a second-year student after going through a one-year preparatory course at university, and received "special training" for seven years and eight months. If that were true, her age must be 28 according to normal school age in our Republic. But they claim that she is 26. Then how was her age counted and when did she go to university and receive "special training"? Their assertion does not hold water.

In an attempt to make the "investigation results" sound plausible, the South Korean puppets are even mentioning the name of her father, his age, career and occupation. But there is no diplomat with such a name and age and no one with such a career at the DPRK mission in Angola.

Lies and fabrications are always incoherent and do not stand to reason.

It is clear to everyone that the fascist clique that has cooked up all manner of incidents in south Korea and invented a large number of sham offenders went to great lengths to frame "culprits" in the recent airliner explosion.

They took the bearer of a foreign passport to south Korea without any grounds, violating even international law. It is quite an easy job for them to describe her as one "hailing from the north" after changing her name and faking even her career and family background.

One fact that must not go unnoticed is that the "investigation results" were published many days after the incident.

In fact, the probe into the jetliner incident was not a matter that required a great deal of time.

If the puppets themselves had frankly admitted the fact that the jetliner incident was their own work for the extension of the military administration and had not made political capital out of it, the incident would already have been settled last year.

However, many days were required for the south Korean rulers to cook up a scheme to cover up their crimes and shift the responsibility for the incident to us, and more days to invent the so-called "presentation of a bouquet" 16 years ago in order to make the woman "culprit" of north origin.

They attempted to link the woman called Mayumi with us and brand her as the perpetrator of the explosion on board the passenger plane. They, however, had produced no material evidence. This proves that the "investigation results" are a fabrication.

From the viewpoint of criminal investigation, it is common knowledge that no incident can be proven with only the statement of a suspect, and no material evidence.

Without material evidence to confirm the statement of a suspect and if a sham criminal makes a false statement, its authenticity cannot be confirmed.

Therefore, if what happened to the KAL airliner is to become clear, firstly its wreckage should be produced as material evidence and it should be examined.

But, the south Korean puppets could not produce a single piece of material evidence in their "investigation results".

The wreckage of the plane and the lifeboat, emergency food and medicines, etc. they claim to have found on the sea are not plausible evidence.

If the passenger plane exploded in the sky above the Andaman Sea and its wreckage fell into the sea, where is the "black box" which is told to stand up to a temperature of 1,000 degrees C. and shock 1,000 times greater than normal gravity and operate in the sea, and how is it that only these things can float?

Moreover, it was announced that as soon as the passenger plane incident occurred, they dispatched a field investigation team to conduct a search by plane over the Sea of Andaman where a Burmese cargo vessel was sailing, so how can the wreckage which was not seen by them suddenly be found by a cargo ship from another country 5 days after they completed their search?

This in itself makes the public suspect that the lifeboat, emergency food and medicines, etc. called wreckage of the plane were things the south Korean puppets carried from Seoul and scattered on the sea.

The Karen tribe in the border area of Burma seized the body of the plane and the dead bodies and belongings of the passengers and has proposed negotiations concerning them. This fact provides more proof that the said wreckage is not real, but a sham they themselves scattered.

The puppets claim that the "culprits" left the plane, leaving a transistor radio in the luggage rack with a time bomb and a bottle of liquid explosive so that the plane would explode in midair. This is nonsense which does not hold water.

In December last year, they reported that the couple with Japanese passports were shadowed and watched all the way from Vienna, Austria, to Abu Dhabi via Baghdad.

The watchers, therefore, could not have failed to see the two alighting from the plane after shelving a transistor radio and a wine bottle which are by no means small objects. It is quite unimaginable and impossible that even if they left their luggage on the plane before disembarking, more than 20 agents of the "security planning agency" aboard the plane and its crewmen could not discover them in the nine hours before the explosion.

Mayumi was forced to stand before reporters to give "plausibility" to the announcement of the "investigation results" which lacked any material evidence. This only shows how basely they fabricated the incident.

The woman who they claimed hailed from the north was made to read the paper written by the investigation officer, uttering "tibi" (T.V.), "sokjoe" (atonement) and "Yakjubyong" (rice wine bottle) which are words used by south Koreans only, not by people in the north. Although she was escorted to Seoul with a gag in her mouth, she was given the chance to go sightseeing freely in a car like a tourist and asked to give her impressions of the "presidential elections" which she did not witness.

This brought the truth of their drama into bolder relief.

All the facts show that the "investigation results" are a fabrication for the anti-DPRK smear campaign and the KAL incident is no more than a drama written and enacted by the puppets themselves.

We solemnly declare once again that our Republic has nothing to do with the KAL incident and strongly denounce in the name of all the Korean people the criminal acts of the south Korean rulers to shift the responsibility for the incident onto us.

Their aim is clear in launching the anti-DPRK campaign, linking the KAL incident with us from the beginning of the new year without any foundation.

It proceeds from their intention to ward off the influence of our Republic's new proposal for peace negotiations, much upset by it, and divert the people's attention elsewhere.

As is already known, we, out of a desire to make this year a year in which new advances will be made in national reconciliation and unity, proposed to convene a historic north-south joint conference, requesting the south Korean authorities, political parties, public organizations and individuals of all social standings to seek jointly a way to remove antagonism and confrontation between the north and south and ease tension.

Our proposal is now evoking great sympathy not only among the people in the north but also among board sections of our fellow countrymen in south Korea and abroad and has received a warm welcome from peace-loving people throughout the world.

In particular, the south Korean students and people from all walks of life, apprehensive of the future for peace and peaceful reunification after the "elections" held in south Korea last year which resulted in the extension of the military dictatorship contrary to the people's will, are showing a new desire to launch a more dynamic grand nationwide campaign for independence, democracy and reunification, showing great interest in our proposal calling for the convocation of a north-south joint conference.

Such a trend poses a great threat to the south Korean rulers in their immediate "transfer of power" and "elections to the national assembly" and, furthermore, the singlehanded hosting of the Olympic Games.

The south Korean rulers published the "investigation results" of the KAL incident as soon as we sent a letter proposing the convocation of a north-south joint conference to the south Korean authorities, political parties, public organizations and people from various sections of society. This shows that their anti-DPRK intrigue is premeditated and intentional.

They are trying to use the KAL incident to prevent the influence of our proposal for a north-south joint conference spreading in south Korea, just as they used it in the fabricated "victory in the presidential elections" last year.

By timing the publication of the "investigation results" to coincide with our proposal for a north-south joint conference, the south Korean authorities are clearly indicating that they have no intention of holding dialogue with us and promoting reconciliation and unity, but are seeking only confrontation and escalated tension.

The south Korean rulers are kicking up a hue over such anti-communist campaigns as a "statement" and an "urgent emergency military affairs meeting" along with the publication of the "investigation results." We take these matters seriously and cannot but consider them to be a declaration of confrontation negating dialogue, reconciliation and peace.

The Chun Doo Hwan-Roh Tae Woo military fascist clique must be made clearly aware that they can gain nothing from such a futile anti-DPRK campaign.

The KAL incident will not be a way out for them on their road to destruction.

We strongly hold that the south Korean provokers, though belatedly, must frankly admit that the KAL incident was a drama staged by themselves, immediately stop hurling abuse and slander at us and apologize without delay for their reckless acts to damage the international prestige of our Republic.

The south Korean people must understand the truth of the KAL incident and resolutely oppose and reject the puppet rulers' vilification campaign hindering reconciliation and unity, the national desire.

Availing ourselves of this opportunity, we hope that the progressive people all over the world, governments, political parties and organizations of all countries that value justice and peace, will pay attention to the sinister purpose of the south Korean authorities' anti-DPRK campaign launched in connection with the KAL incident and raise their voices in protest.

We will watch closely the rash and thoughtless acts of the south Korean military fascist clique and answer any provocation of the enemy with decisive retaliation.

If the south Korean rulers continue their anti-DPRK campaign in spite of our warnings, they will be held fully responsible for all the consequences.

/9274

#### **DPRK Foreign Ministry Claims Discussion 'Unreasonable'**

*SK170435 Pyongyang KCNA in English  
0405 GMT 17 Feb 88*

[Text] Pyongyang February 16 (KCNA)—A spokesman for the foreign ministry of the democratic people's Republic of Korea released a statement today denouncing the United States, Japan and the south Korean puppets for trying to have the KAL incident discussed at the united nations security council for a sinister political purpose.

The statement says:

According to the announcement of a spokesperson for the United Nations, the closed-door consultative meeting of the U.N. security council on February 12 decided to discuss the KAL incident at an emergency meeting of the U.N. Security Council on February 16.

Japan and the south Korean puppets, instigated by the United States, requested the security council to discuss the KAL incident, groundlessly charging the DPRK with the incident.

At the consultative meeting, the delegates of the Soviet Union and China, permanent member nations of the security council, opposed the discussion at the security council of the KAL incident requested by Japan and the south Korean puppets.

The KAL incident has nothing to do with the DPRK. It is a premeditated massacre of fellow countrymen committed by the south Korean puppets themselves. The "investigation results" announced by them are no more than a false document fabricated by them.

The south Korean puppets have so far produced no material evidence concerning the incident and have not made an unbiased investigation into the incident.

Moreover, the world public unanimously considers that there are real criminals among 13 south Korean puppet government officials who deplaned in Abu Dhabi airport, but the south Korean puppets have mentioned nothing about them up to now.

Although the truth and nature of the incident have been made clear, why have the United States, Japan and south Korean puppets brought up in the Security Council the KAL incident which is not a matter to be discussed there?

It is to conceal at any cost their heinous conspiracy in fabrication of the incident, impair the international authority of our republic and justify aggression and division moves in south Korea.

It is also to put down the ever-growing anti-U.S., anti-"government" spirit of the popular masses in south Korea and tide over the serious crisis of the south Korean puppet clique who find themselves in a dilemma within and without.

The government of the Democratic People's Republic of Korea bitterly denounces the United States, Japan and the south Korean puppet clique for attempting to discuss the KAL incident at security council with a sinister political purpose, as a mockery of the U.N. charter and unbiased public opinion of the world, as an intolerable challenge to the DPRK.

According to the charter of the United Nations, the security council has an important mission in maintaining world peace and security.

The U.N. security council ought to discriminate between good and bad in conformity with the U.N. purpose and its mission and should not tolerate the dirty tie up between the United States, Japan and south Korean puppet clique aimed at exploiting the KAL incident for their sinister political purpose.

If the United States and the south Korean puppets think they can abuse the Security Council in covering up their criminal machinations just as they misused the U.N. flag after unleashing a war of aggression against the DPRK in the 1950s this is a serious miscalculation.

Up to this day when 35 years have past since the signing of the Korean armistice agreement the United States keeps its troops more than 40,000 strong stationed in south Korea under the cloak of "U.N. forces" and introduced a large number of nuclear weapons, systematically violating the agreement. Ignoring our repeated proposals for easing tensions, they together with the south Korean puppets are steadily intensifying the moves to provoke a war against the DPRK.

As everybody knows, the government of the DPRK proposed the convocation of a north-south joint conference and the adoption of a peace agreement between us and the United States in order to turn this year the situation on the Korean peninsula favourable for peace of the country and its peaceful reunification, the situation which the world people are following with deep concern.

This notwithstanding, the United States and the south Korean puppets, instead of affirmatively responding to our peaceful nation-saving proposal, answered it with the arms buildup and large-scale "Team Spirit 88" joint military exercises under the pretext of "safe olympic opening". They are also using the jetliner incident in deliberately leading the relations between north and south to the extreme pitch of strain.

In order to ease the tensions and preserve peace on the Korean peninsula, it is imperative to take a due measure to frustrate the malicious smear campaign and war provocation moves undertaken by the U.S. imperialists and the south Korean puppets, not being embroiled in such a plot as the passenger plane incident cried over by those bereft of reason.

The government of the Democratic People's Republic of Korea dismisses as unreasonable the U.N. security council discussion of the passenger plane incident in defiance of the opposition of the world's peaceloving countries. but it will see that the criminal nature and color of the sinister triangular tieup among the United States, Japan and south Korean puppet clique be roundly exposed and condemned by us at the meeting since the debate was proposed to vilify us.

It is convinced that the governments and peoples of the world that love justice and peace will express due support and understanding toward our just stand.

### **Hong Si-hak Attends Hamhung Rally Denouncing 'Team Spirit'**

*SK080741 Pyongyang Domestic Service in Korean  
0500 GMT 5 Feb 88*

[Excerpt] A Hamhung City mass rally to denounce the "Team Spirit-88" joint military exercise of the U.S. imperialists and the South Korean puppet clique and their nuclear war maneuvers was held at the Hamhung Grand Theater.

Slogans reading "We sternly denounce the nuclear war maneuvers of the U.S. imperialists and the South Korean fascist military clique!" and "Let us vigorously step up production and construction in a mind to help the compatriots in the South who are waging a bloody struggle!" and posters reflective of our people's revolutionary will and determination to expel the U.S. imperialists and achieve the independent and peaceful reunification of the fatherland were hung at the rally site.

Comrade Hong Si-hak, alternate member of the Political Bureau of the WPK Central Committee, responsible secretary of the South Hamgyong Provincial WPK Committee, and chairman of the South Hamgyong Provincial People's Committee; (Pak Se-in), vice chairman of the Administrative and Economic Guidance Committee of the South Hamgyong Province; responsible functionaries of the local party and power organs, administrative and economic organs, and working organizations; and deans of colleges were present at the rally, along with people of all strata in the city.

At the rally, vice chairman (Pak Se-in) spoke.

### **Kim Il-song University Rally Scores 'Team Spirit' SK150812 Pyongyang Domestic Service in Korean 2300 GMT 10 Feb 88**

[Text] A rally was held yesterday at Kim Il-song Military University to denounce the "Team Spirit-88" joint military exercise and nuclear war maneuvers of the U.S. imperialists and the South Korean puppet clique.

Slogans such as "We sternly denounce the nuclear war maneuvers of the U.S. imperialists and the South Korean military fascist clique!" and "Let us drive out the U.S. imperialists and reunify the fatherland!" were placed at the meeting place, which was filled with soldiers who gathered with surging anger and indignation over the U.S. imperialists and their running dogs who are frantically conducting aggressive nuclear war exercises. Responsible functionaries of the university attended the meeting along with teachers, officials, students, and soldiers.

At the meeting, a speech by Lieutenant General Kwon Chung-yong was followed by speeches by (Han Yong-go), a teacher; (Kim Chang-sun), a student; and (Kim Yong-chol), a soldier.

After pointing out that since they announced plans to conduct the "Team Spirit-88" joint military exercise, the U.S. imperialists and the South Korean puppet clique have amassed and moved a large number of troops and military and technological materiel, thus massively inciting a war fever, the speakers sternly denounced the rascals' detestable nuclear war maneuvers in the name of all the People's Army officers and men.

While noting that it is a gross miscalculation for the U.S. imperialists and South Korean puppets to think they can frighten someone else with large-scale war exercises and nuclear weapons, the speakers stressed that the rascals, clearly knowing what miserable end comes to warmaniacs who enjoy playing with fire, must immediately stop the criminal war exercise. They also stressed that our People's Army officers and men will always watch with high vigilance the reckless nuclear war exercise of the U.S. imperialists and the South Korean puppets and will respond to any aggression of the enemy with thousand-fold retaliation.

While the speeches were being delivered, vigorous voices condemning and denouncing the enemy of peace and carrying the firm spirit of our people and our People's Army officers and men, with which they will crush the rascals' aggression maneuvers and strongly defend the feats of the revolution, echoed frequently at the meeting site.

**KCNA Reports Mass Rallies Denouncing  
Projected 'Team Spirit' Exercise**

*SK130427 Pyongyang KCNA in English  
1509 GMT 12 Feb 88*

[Text] Pyongyang February 12 (KCNA)—Mass rallies denouncing the "Team Spirit 88" joint military rehearsal and nuclear war manoeuvres of the U.S. imperialists and the south Korean puppet clique are continuing to be held at different industrial establishments and cooperative farms.

Speakers at a mass rally held at the chollima steel complex in Nampo municipality, said that the "Team Spirit 88" was a war rehearsal, the largest ever in history, in the duration of operation and strength of participating forces, and an extremely adventurous nuclear war moves in the contents and character.

They stressed:

Today it is precisely the U.S. imperialists who aggravate the situation and increase the danger of war on the Korean peninsula. They must be held fully responsible for all the consequences arising from the large-scale war exercise.

Speakers at a mass rally held on the Taesong cooperative farm, Kangso district, Nampo municipality, pointed out: if a nuclear war breaks out on the Korean peninsula owing to the reckless adventure of the U.S. imperialists, it is the Korean nation first of all who will suffer calamities and it is the Korean territory first of all that will be devastated.

They called upon the whole nation to resolutely participate in the anti-U.S., anti-war and anti-nuclear struggle to check and frustrate the U.S. imperialists' war exercise and convert the Korean peninsula into a nuclear-free, peace zone.

Similar rallies were held at the Pyonyang textile combine, the Changsuwon cooperative farm, Samsok district, Pyonyang, the UP cooperative farm, Kangnyong county, south Hwanghae province, the Yulgok cooperative farm, Pakchon county, north Pyongan province, and the UP cooperative farm, Changpung county, Kaesong.

The speakers at the mass rallies said that the desire and will of the Korean people to live in peace in a reunified land free from war, antagonism and confrontation, are unshakable and stressed that the Korean people would decisively frustrate any threat and move of the aggressors and achieve the cause of peace without fail.



**NODONG SINMUN Urges Accelerated Kwangbok Street Construction**

*SK060012 Pyongyang Domestic Service in Korean  
2118 GMT 2 Feb 88*

[NODONG SINMUN 2 February editorial: "Let Us Accelerate and Complete the Construction of Kwangbok Street Under the Flames of the Struggle To Create New Pyongyang Construction Speed"]

[Text] The construction of Kwangbok Street and other major projects in Pyongyang are among the construction projects we should vigorously accelerate by concentrating great effort.

The great leader Comrade Kim Il-song has taught: Construction workers in charge of building Kwangbok Street and other major projects in Pyongyang should turn the city into a more majestic and splendidly modern city by shortening the period of construction and by ensuring the quality of construction at the highest level.

The construction of Kwangbok Street and other major projects in Pyongyang are among the largest ever built in the history of our country's urban construction carried out under the planning and guidance of our party, as well as sacred work designed to decorate the revolutionary capital as a far more majestic and splendidly modern city and ensure the success of the 13th World Youth Festival.

It has not been long since the construction workers and the soldiers of the People's Army mobilized for the construction of these projects began the construction of Kwangbok Street and other major projects in Pyongyang, upholding the intentions of the party and the leader to decorate Pyongyang as a more modern city. Yet, already sprawling modern new roads, sports and cultural facilities, and dwellings have appeared in full view on Kwangbok Street.

However, it has not been just Kwangbok Street. Sports and cultural facilities being built in various parts of Pyongyang are taking full shape. In the construction of these projects, which is progressing at extraordinarily high speed, we witness the hotter-than-fire loyalty to the party of those engaged in construction of the capital city.

Kwangbok Street, which is bringing about dazzling changes under the wise leadership of our party, fills our hearts with boundless national dignity and pride.

This year, a significant year that marks the 40th anniversary of the founding of the Republic, is very important in effecting a decisive phase in the construction of Kwangbok Street and other major projects in Pyongyang. Corresponding to the great leader Comrade Kim Il-song's new year address, the workers engaged in construction of Kwangbok Street are now accelerating their grand march of construction in high spirits, with redoubled courage.

Amid such a struggle, the construction workers and the soldiers of the People's Army have brilliantly fulfilled their February target and have made a report on their loyalty to the party. It is worth taking great pride in that they have managed to smoothly fulfill their vast plan within the first month of the new year amid difficult winter conditions.

However, we cannot remain content with this. Reality demands that they set their eyes on still higher targets and advance more rapidly.

To hasten the construction of Kwangbok Street and other major projects in Pyongyang, it is imperative that they more vigorously carry out the struggle to create a new Pyongyang construction speed, with eyes set on higher targets before anything else.

Over the entire course of socialist economic construction, our people have struggled, always eyeing higher combat targets; never once have they failed.

It was because they struggled with eyes on higher targets after assuming the party's demands as the absolute standard that the construction workers of the Sohae Lockgate could build a world-class lockgate by building a dyke of 20 ri over a expanse of rough water in just 5 years.

The workers engaged in construction of the Angol athletes' village, instead of taking pride in their past success, are now struggling with a view toward completing the construction work as a whole by mid-April, a high goal. This is very good and is worth admiring.

Functionaries in the construction area should see to it that the resolve of the construction workers comes to brilliant fruition with a bold operation and ambitious combat command in a way that corresponds to the high goals.

All guidance functionaries should go among constructionworkers to deeply explain and pass along to them the party's intentions that summoned them to the great construction march to make them create new Pyongyang construction speed with a high degree of loyalty to the party and leader.

The speed battle is the basic combat style for pushing ahead with all manner of works at blitzkrieg speed. Only when the speed battle is waged will it be possible to hasten the construction of Kwangbok Street and ensure the highest quality of construction by creating new Pyongyang construction speed.

All construction workers should be aware that the speed battle is key to achieving the highest form of success in the construction of Kwangbok Street in terms of both quality and quantity in the shortest possible period of time and to causing the strong wind of the speed battle to blow.

The construction of Kwangbok Street and other major projects in Pyongyang are the common work of the entire population of the country. Our party wants the entire party, the entire nation, and all the people to lend vigorous labor assistance to the construction of Kwangbok Street.

Party organizations, plants, and enterprises in all domains of the national economy, as well as all party members and working people should actively back the construction of Kwangbok Street in terms of material and labor, with the party's demands in mind.

They should first smoothly supply them with construction materials. Plants and enterprises that are supposed to supply the Kwangbok Street construction site with such materials as cement and steel products should see to it that the smooth supply of materials precede construction by normalizing the production of their materials at a high level.

In particular, the State Administration Council and bureaus of committees should take appropriate measures to ensure the completion time of construction in proportion to positive progress in plastering work and interior decoration; make them dovetail into each other, and strengthen the work of guiding and controlling so that the materials can be transported in a timely manner.

Plant facilities should be smoothly produced and supplied in a timely manner. Under circumstances in which many construction projects have entered the stage of interior decoration upon the completion of the framework, whether or not the overall construction can be completed by further shortening the period of construction depends largely on the production of plant facilities.

All domains, provinces, plants, and enterprises in charge of producing plant facilities should see to it that the plant facilities are transported to their destinies in a timely manner by further organizing their share organizations and by assigning priority to supply work. Also, they should produce and supply plant facilities at the highest level, in good quality.

Among the people in the country, a large number of beautiful deeds of extending labor and material assistance to the construction of Kwangbok Street, deeds that are undertaken with a view toward extending a helping hand to the construction of Kwangbok Street, which will cause the era of the workers' party to shine with pride, are coming to flower.

This is an expression of the attitude our party members and working people need to implement our party's grand plan for the construction of the capital city.

All domains and all units should see to it that the construction of Kwangbok Street gets positive material and spiritual support by emulating such an example.

All the provinces, cities, counties should broadly explain and pass along to the working people that helping by participating in the construction of Kwangbok Street and other major projects in Pyongyang is extremely rewarding and honorable.

Organs, enterprises, and residents in Pyongyang should more positively carry out various forms of labor assistance according to the demands of the party by cherishing self-awakening to a high degree.

At the same time, local areas should do a good job of rear supply to construction workers that hail from their areas.

In this way, they should make this year, which marks the 40th anniversary of the founding of the Republic, shine as another year of victory, a year of proud grand march of construction.

## POLITICAL

### Opposition Parties React to DJP's Interest in Small Constituency

41070034 Seoul SEOUL SINMUN in Korean  
24 Jan 88 p 3

[Article by reporters Yi Mok-hui and Kim Kyo-chun]

[Text] Amidst the stalemate in the negotiation between the ruling and opposition parties to settle on new election laws due to sharp confrontations from the conflict of interests among various political factions, even the Democratic Justice Party (DJP) itself, not to mention the opposition parties, was surprised at the DJP's movement to change the party platform to a small constituency system [one assemblyman from one constituency].

#### The Ruling Party

The DJP has so far been insisting on a system with one to three assemblymen from one constituency, considering the regional population while respecting the administrative units of the Shi (city), Kun (county), and Ku (district), during the negotiation process with the opposition parties. However, they have showed some flexibility to change to a small constituency system or an improved system over the current system of two assemblymen from one constituency.

The first proposal put forth by the DJP for negotiation can be summarized as a system with one to three assemblymen from one constituency; that is "a small constituency system for the rural districts and the small cities, but a medium constituency system for larger cities." Considering the previous election trend of the rural districts supporting the ruling party; and the cities, the opposition parties, this combined system is what can guarantee the ruling party a total victory.

Considering the strong reactions expected from the opposition parties and public opinion, however, the DJP did not seem to push the first proposal and pass it independently from the beginning.

It might be from early January, right after they finished the analysis of the presidential election result, that they started to consider seriously the small constituency system, changing from their original plan of "one to three assemblymen from one constituency."

The analysis of the presidential election result showing that the traditional trend of the "rural districts supporting the ruling party and the cities supporting the opposition parties" is changing made them conclude that a small constituency system may not necessarily be disadvantageous to the DJP if they achieve a total victory from the rural areas and small cities and a partial victory from the larger cities, except from the Honam [North and South Cholla Provinces where Kim Tae-chung's supporters dominate] area.

Moreover, since it is impossible to think of an election bill which is satisfactory to all the opposition parties, it seems inevitable that any bill which is passed would be agreeable to only some of the opposition parties. In order to avoid a possible attack from the public, the DJP seems to have made up their minds that a small constituency system is an ideal one.

The strong argument by several close associates of the president-elect, No Tae-u, that since they have won the presidential election fairly, there is no reason to avoid a small constituency system which is the people's wish, played an especially important role in changing the party platform.

It also became known that the central incumbent members of the ruling party, based in the presidential Blue House, urged finalizing negotiations for the legislative election law by adopting a small constituency system, and at the same time strongly insisting on an early election.

The reason why the government and the ruling party has not made their position advocating a small constituency system officially known is that it might trigger the merging of the opposition parties.

The DJP seems to expect an establishment of a political pattern similar to that of the Japanese that consists of a giant conservative ruling party and small progressive parties, after a political reform is achieved through a small constituency system. They also expect that the enhanced people's political consciousness will not allow political parties that represent specific geographical regions.

As for the progressive parties, the DJP seems to plan to provide legislative opportunities by such means as the so-called non-election seats system in which extra seats are distributed in proportion to the winning votes in the legislative election, even if they have not won the legislative seats by election.

Meanwhile, some incumbent DJP assembly members have suggested the enhancement of the current system of two assemblymen from one constituency. It is a general opinion in the DJP, however, that this suggestion is not justified because it is very difficult to win a majority of seats in the election, unless the non-election seats are distributed to the ruling party in an unreasonably advantageous way.

Considering the opinions of the party caucus and the public, it seems the DJP will introduce a change in the party platform toward a small constituency system around the end of this month, and pass the bill at the end of the special session of the National Assembly.

Since the DJP indicates a change in the party platform to a small constituency system, many assemblymen have reacted differently depending on their own interests.

While those from the rural districts and small and medium size cities where the ruling party supporters traditionally dominate welcome the small constituency system by saying "It is a natural consequence at a time when a new era is beginning"; those from big cities like Seoul and the Honam area [where the opposition party supporters dominate] viewed it as unsatisfactory although they could not voice this opinion because of the general atmosphere.

One assemblyman from Seoul expressed his dissatisfaction by saying, "Even if the small constituency system results in securing a stable majority, who will be responsible if we should completely lose in the big cities?" Some of the assemblymen from the Honam area expressed their wish that the party stick to the original platform of one to three assemblymen from one constituency system by saying, "Under the small constituency system, it is obvious that we cannot win."

On the other hand, a small number of those from the big cities and the Honam area are showing their confidence by saying, "There are good odds that we can win even under a small constituency system considering the split of the opposition parties, leadership and organizational power." Therefore, the dissatisfaction of the majority of the ruling party assemblymen may not influence the party's decision to change to the small constituency system.

### The Opposition Parties

As the possibility of changing the DJP's party platform to the small constituency system becomes greater, the Reunification Democratic Party (RDP) assemblymen changed their attitude from the naked negative reaction such as the "election boycott" (Kim Wan-tae, chairman of RDP Policy Evaluation Committee) to a paradoxically negative reaction by saying, "We will participate in the election on the assumption of a complete small constituency system and will campaign extremely hard." (Pak Chong-yul, RDP secretary general).

The reason why the RDP is showing such a strong reaction is because competition to become the major opposition party between the RDP with a "wide but shallow" support base and the Peace and Democracy Party (PDP) with a "narrow but deep" support base will most likely depend on which constituency system will be adopted.

Moreover, the RDP considers the situation to be a matter of life and death by worrying about a possible outcome in the process of a forthcoming negotiation in which the DJP and the PDP would work, hand in hand, while isolating the RDP. In that event, the RDP thinks that "There may not be many RDP survivors in the forthcoming National Assemblymen election." The RDP believes, however, that "The DJP might have spread a false rumor just to depress the opposition parties' spirit."

The RDP, who has not yet found a serious countermeasure other than their emotional reaction, is expected to concentrate on reunification efforts by the opposition parties for a while, speculating that the reunification movement could be accelerated as the possibility of a small constituency system grows, while they try to delay the negotiation for the election law with the DJP as long as possible.

The PDP, which has been insisting on the small constituency system as their party platform, generally welcomes the DJP's movement in this direction, with the exception of some of the incumbent assemblymen.

Ho Kyong-man, the PDP floor leader, said, "The small constituency system is the only method which will not betray the people's wishes, and it will help unite the opposition parties either before or after the election and restore the characteristics of the opposition parties." He is optimistic in saying, "Now that the small constituency has become a fundamental direction, the negotiation for an election law might be finalized around mid-February, concurrently with the subcommittee in the home affairs committee."

The PDP's attitude resulted because they share the people's opinion that the current system of having two assemblymen in one constituency is an irrational, distributive system remaining from the [Pak Chong-hui era's] Yusin era, and also because of their practical interest in the small constituency system being advantageous to them since it does not hand over the status of the major opposition party to the RDP."

As assemblyman Kim Hyon-su reacted negatively by saying, "Under the current circumstances, where there are no preventive measures for election fraud such as a local autonomy system or freedom of the press, those who think that the opposition parties can win the assemblymen election under the small constituency system except for the Honam area and part of the Yongnam area [North and South Kyongsang Provinces] are either psychos or phonies who want to help the ruling party." A substantial number of the non-Honam area assemblymen are, in fact, not satisfied with the small constituency system although they superficially acknowledge it. Therefore, substantial distress is expected even in the PDP, although to a lesser degree than in the RDP, in case the small constituency system becomes law.

The New Democratic Republican Party (NDRP) judged that in case the small constituency system is adopted, they may not win enough votes to even construct a national assembly negotiation group, and they are nervously watching the change in the DJP's party platform. Under the small constituency system, the NDRP is expected to win only three to four seats even in the Chungnam area, where the party has a strong support. In

preparation for such a situation, concerned people in the party are saying that the NDRP should initiate efforts to reunify the opposition parties or develop a system of combined nomination.

13302

**Studies of Presidential Election Result Reported**  
*41070021 Seoul CHOSUN ILBO in Korean*  
*17 Dec 87 p 2*

[Article by reporters Yi Sang-chol, Yi Hyok-chu, and Yim Tong-myong]

[Text] The ballot counting of the recent presidential election began at 7:20 pm, 16 December in Yongju City, North Kyongsang Province and the result of the election began to be apparent. From the beginning, No Tae-u, candidate of the Democratic Justice Party [DJP], began to lead.

Needless to say, such a phenomenon as this appears because the counting of absentee votes is to be done simultaneously with that of the general ballots in compliance with provisions of the revised election law, according to the analysis done by some quarters. However, a similar trend continued even after 10 percent of the nationwide counting was done; and the feeling of joy and sorrow mingled among various parties.

The DJP said that "it is what we expected." However, when the party [votes] remained high even in Seoul, it expressed surprise.

When 10 percent of the counting was over, the [Reunification] Democratic Party [RDP] sustained hope that it would be able to expect victory if the gap was slowly narrowed. However, that feeling gradually disappeared.

The Party for Peace and Democracy [PPD], when it began continuously falling behind even Candidate Kim Yong-sam, showed concentrated interest in the matter of "attack on fraudulent election grounds" rather than in its polling score. The situation was complicated so it was distasteful even mentioning the matter of the polling score.

Even as late as 13 December, the PPD was in high spirits calling [the election] "a convention designed to confirm the president." But this elation has now disappeared; and the party has fallen into a deep gloom. It is now beginning to show careful interest in the problems it might face in the future.

When results of the vote, carried on television broadcasts, turned out to heavily favor Candidate No Tae-u, inquiries to the press rushed in from supporters of non-government parties asking whether "the results turned out to be so because of the fact that absentee ballots were counted first." Most of those inquirers seemed surprised that the situation evolved from the

beginning; they wanted to believe that the results came about because of absentee ballots. They clearly understand this only after hearing it explained that absentee ballots are to be counted simultaneously with general ballots in compliance with provisions of the election law.

On the contrary, when Candidate No unexpectedly put up a good fight even in the Seoul region, key officers of the DJP interpreted that as "a counter-12 February phenomenon."

Namely, it meant that the result of the 12 February 1985 general election represented an instance in which the popular will turned its back on the forces in power, and that the good fight of Candidate No on that day was the result of the nationwide disappointment toward the two Kim's who broke their promises of a unifying candidacy, and the upsurge of interest in "stability."

The interested members of the DJP explained that "when they came to expect confusion following the election because of conflict and confrontation between the two Kim's, and the violence staged in campaign rallies in Chonju and Kunsan, the majority of the people, including the middle class, chose "stability." In particular, some people interpret that the Korean Airline plane incident that took place during the election [campaign] period, too, was one of the good factors which heightened the psychological need for stability.

In the case of Candidate Kim Yong-sam, although he was a leader in these situations, and he let Chong Sung-hwa, former army chief of staff, join his party, and he fiercely attacked the 12 December incident, he lost his enthusiasm because of "the virtual failure" of his Youido campaign. And, moreover, he did not have enough ability in organization and assimilation to make the situation provide ballots.

On the other hand, Candidate Kim Tae-chung ran behind Candidate Kim Yong-sam in all regions except for overwhelming support from the Honam region and his superiority in the Seoul region. The DJP side says that its expectations that Kim Tae-chung would remain as third choice nationwide were met exactly in that sense.

In the evening, when Candidate No was winning countrywide, while even moving ahead in the Seoul region, the DJP made public to the press a table, which was based on the expectations of ballots for each local party branch throughout the country during the period ranging from 8 December through 14 December; of expected ballots for each candidate in the current election. This material, classified as "confidential," forecasts that voter turnout would be at 87.6 percent, that Candidate No would get 9,154,000 votes or 40.4 percent of the valid ballots, Candidate Kim Yong-sam would get 5,318,000 votes or 23.5 percent of the valid ballots, Candidate Kim Tae-chung would get 5,165,000 votes or 22.8 percent, and Candidate Kim Chong pil 2,419,000 votes or 10.7

percent, and that Candidate No would come out ahead of Candidate Kim Yong-sam, who would be in second place, by as many as 3.07 million-odd votes.

In particular, it is noteworthy that even in the Seoul region, it expected that Candidate No would get 31.3 percent [of the valid ballots] and come out ahead of Candidate Kim Tae-chung, by 27.7 percent, and Candidate Kim Yong-sam, by 27.3 percent.

However, that table of expectations forecast that in the case of Kwangju and South Cholla Province, Candidate Kim Tae-chung would get 61.9 percent and Candidate No 25.3 percent, that in the case of South Chungchong Province, Candidate No would get 37.4 percent and Candidate Kim Chong-pil 29.0 percent. But, in reality, Candidate No got less than the expected vote.

Furthermore, in the Taegu and North Kyongsang Province region, the table expected that Candidate No would get 69.1 percent and Candidate Kim Yong-sam 17.3 percent. However, the result was that Candidate Kim got far more votes than expected.

#### Unexpected Low in Regional Links

In the total added up around midnight, Candidate No took an overwhelming lead of more than 65 percent in the Taegu and North Kyongsang Province region; and Candidate Kim Tae-chung got clusters of votes of more than 70 to 80 percent in the Kwangju and North and South Cholla Provinces. At a certain point, Candidate Kim demonstrated the phenomenon of getting more than 90 percent of the valid ballots in the Kwangju region. Candidate Kim Chong-pil remained a strong force, getting more than 40 percent in the South Chungchong Province vote.

While these candidates put up a good fight in regions linked to them, Candidate Kim Yong-sam, conversely, showed less strength than expected by getting less than 50 percent in the Pusan and South Kyongsang Province regions, those regions linked to him. And, it turned out that Candidate No made an inroad of many votes.

In the Seoul region, there was the situation where Candidates No and the two Kims "unexpectedly" played a seesaw match around the 30 percent level. Such a situation encouraged the DJP, which regarded Seoul as the weakest area. What the Candidate No forces first expected in Seoul was "approximately 30 percent" of the valid votes.

Meanwhile, respectable observers foresaw that even if Candidate No comes in first, it would be more probable that there would be only a small difference in the vote count. However, this expectation was upset and "an unforeseen situation" developed. Regarding such a turn-out, political circles drew various interpretations.

Above all, the two Kim candidates' unexpected low vote totals were due to the fact that the two Kims failed to gain the confidence of the people because they failed to unify their candidacy. Or one may make an experimental analysis that the middle class, which supposedly is a major force of 80 percent, sensitively acted in compliance with its class-oriented understanding of what it "should hold to."

On the other hand, the non-government party circles asserted that the government party circles staged cluster of ballots, relaying ballots, and proxy voting nationwide by means of their money power, government power, and corrupt election practices, and thus that the will of the people was distorted.

Although it was anybody's guess that Candidate Kim Tae-chung would get overwhelming support in the Kwangju and North and South Cholla Provinces, the very unexpectedly strong cohesion shown by the eligible voters in those regions attracted attention.

The rate of support he enjoyed in South Cholla Province, 80 percent, and North Cholla Province, far above 70 percent, was a high vote total which no other candidate could get in his native region. However, the fact that the Mokpo region showed support at a rate far less than that of the Kwangju region drew attention. At any rate, many analyses noted that it was worthy of close attention that Candidate No got a vote total of over 20 percent in the North Cholla Province region.

On the other hand, the preference trend shown toward Candidate Kim Yong-sam in the Pusan and South Kyongsang Province region turned out to be unexpectedly low. Candidate Kim first expected a cluster of votes of 60 to 70 percent in Pusan; however, actual results showed only less than 50 percent. Candidate No fought a good battle there by maintaining the level above 40 percent. Analyses in the political circles noted that such a fact as this became an important cause of the failure of Candidate Kim Yong-sam, who stood second till late that night, in the chase of Candidate No, while another cause of this was Kim's inferiority in the Seoul region.

Another event which attracted attention in the process of counting the votes, in addition to Candidate No's lead, was the good fight staged by Candidate Kim Chong-pil.

Beyond that he continuously remained in the lead in South Chungchong Province, his native region, Candidate Kim was ahead, with very little difference, of Candidate Kim Tae-chung in North Kyongsang Province and in some areas of North Chungchong Province, including Chongju, he moved up to third. Thus he showed off his frightful potential force.

It was somewhat expected, to a certain extent, that Candidate Kim Tae-chung would be low in the Yongsnam region in view of the fact that this election took on enormous regional characteristics. Still it was not

expected that he would fall so far behind in the middle regions, including Kyonggi Province, North and South Chungchong Provinces and Kangwon Province.

Analyses reveal, in the case of North and South Chungchong Provinces, such a result was a somewhat expected in view of the fact that North and South Chungchong Provinces are Candidate Kim Chong pil's stronghold. In the case of Kangwon Province, too, there were conjectures that Candidate Kim Tae-chung would be limited because of his political predilections. Analysts noted it remarkable that Candidate Kim Tae-chung fell behind Candidate Kim Yong-sam in the Kyonggi region, which is adjacent to Seoul because that region, although it has public corporations in it, is conservative.

Many citizens, who were watching the vote count throughout the night, were chagrined at the non-government party's failure to unify behind a single candidate, even before the final election result was known. When, in the first half of ballot counting, the total votes for the two Kim candidates fell behind the votes gained by Candidate No, one citizen asked: "How could such a result be possible?" However, when the difference gradually became narrower, chagrin was expressed that "if only a unified candidate had been achieved, the non-government party would have scored a victory without any vote dispersion as a result of regional sentiments."

Various public opinion survey organizations which conducted surveys on expectations of the vote total, and the degree of support by candidates, too, were watching the ballot counting throughout the night in order to confirm their "credibility."

These organizations, while checking at all times the regional and nationwide polling results, after midnight looked at the candidates vote totals that remained constant, and belatedly made public various data, saying that "our surveys hit the bull's eye."

7989

## ECONOMIC

**National Land Development Plan Announced**  
41070016 Seoul CHUNGANG ILBO in Korean  
8 Dec 87 p 4

[Article by Yi Chang-kyu]

[Text] The master plan for regional development announced by the Ministry of Construction is a long-range plan for the development of the national territory and offers a blueprint for up to the year 2001. This plan was confirmed by the National Territory Development Deliberative Council, chaired by the prime minister, on the basis of a report by the Research Institute for the Development of the National Territory. Long-term national territory development plans have normally

been formulated for 10-year terms. At the present time, the second national territory master development plan (from 1982 through 1991) is being implemented.

This new plan differs from the current plan in that it redivides the national territory into core economic zones. It offers a program for up to the year 2001, covering the third plan period.

The total budget required (a responsibility of the national treasury) is staggering: for the central region, 4.6 trillion won; for the southeast region, 5.2 trillion won; and for the southwest region, 3.6 trillion won, for a total of 13.3 trillion won.

Furthermore, the high-speed electrified railroad between Seoul and Pusan, at 4 trillion won, itself needs to draw an enormous amount out of the budget. This is a lot of money set aside for civilian investment and the outlook is that actually much more than this will be spent.

Here is a brief outline of the important projects for each region.

With the construction of the new Chongju international airport, a new urban area centered around Chongju will take shape. This city will be developed as a support city for international aviation, with such industries as air freight.

The Chonju region will become a megalopolis that combines Chonju, Iri and Kunsan and will be given the role of the advance base for the development of the west coast.

### The Central Region (Chongju and a part of Chonbuk)

**The Transportation Network:** Following the recent opening of the Chungbu Expressway, a new expressway will be built linking Taejon and Chinju (177 km), Onyang and Kunsan (130 km), Chonan and Nonsan (90 km), and West Taejon and the beltway around Tong-myon in Taedok-kun (20 km).

The first phase of the construction of the new international airport at Chongju will be completed by 1994, so that 5 million people a year will be able to use it. With the second phase in the year 2001, the facilities will expand to twice their current size.

As for railroads, there will be a new freight line laid between Changhang and Kunsan (17 km). A double-track railroad line will be created between Chonan and Nonsan. Chonju, Iri and Kunsan (38 km) will have their railroad lines electrified.

**Industrial Estates:** The plan calls for creating a large-scale industrial estate aimed at trade with China, promoting over the long term the construction of an integrated industrial complex at Kunsan and Changhang. The plan also calls for strengthening the links in the transportation system through the construction of a West Coast Expressway.

In addition, industrial zones appropriate to local specialties will be created in Ochang, Chongyang, Chochiwon, Taesan and other places.

**Tourism Development:** With such projects such as the creation of a Paekche Kingdom tourist region by linking the Puyo Kudurae tourist zone and the Kongju Komnaru tourist zone, eight regions will be developed, such as the Chungwon tourist region along the shore of the lake at Chongju, the tourist region along the banks of the Kum River at Kunsan and Okku, and others.

#### **The Southeast Region (Pusan, Taegu, Kyongju, and parts of Kyongbuk)**

**Pusan:** In order to hold population growth in Pusan, which now has a population of 3.5 million, to a level of 4.5 million in 2001, efforts will be made to develop satellite cities in the suburbs. The land area of Pusan will be expanded by taking advantage of the construction dikes at the mouth of the Nakdong River to reclaim land now under the seas. A new coastal trunk line linking Oji, Noksan and Chinju will be formed. In order to correct the overly elongated nature of Pusan city, an east-west electrified train line will be built between Hwangyong and Songjong and railway facilities such as Pusan station will be realigned.

The functions of the harbor will be dispersed to Tadaepo and Kamchon and a beltway will be built linking Kimhae and Yangsan to the Oji-Namhae Expressway. In addition, the construction of a second urban expressway (between Munhyon and the second Grand Nakdong Bridge) and of an expressway joining Oji, Changnim, Songdo and Yongdo is under consideration.

**Taegu:** An east-west trunk line will be developed, linking Kumi, Woegwan, Taegu, Yongsan and Pohang. In particular, Kyongsan and Yongsan-Woegwan will be fostered as suburbs of Taegu.

**Transportation Network:** Construction will be undertaken on an expressway between Taegu and Kimhae (95 km), on a link between the Kyongbu and the Namehae expressways, on an expressway between Chinju and Taejon (177 km), and a Chungan Expressway (280 km), and on widening the Taegu-Masan expressway (83 km). Likewise, there are plans to either widen or create ordinary highways between Pusan and Masan, Samchonpo and Chinju, Masan, Chungmu and Koje, Pusan and Ulsan, and Changwon and Changyu.

The project of a high-speed electrified railroad between Seoul and Pusan will by its very nature require large amounts of money and there is still disagreement within the government about it. Nevertheless, for the moment it is being pushed forward. Under consideration as areas for electrified railway construction are Pusan-Masan and Pusan-Ulsan.

#### **The Southwest (Kwangju, Chonnam, and part of Chonbuk)**

**Transportation Network:** A West Coast Expressway from Kunsan to Mokpo and Chunchon (307 km) will be built and the Kwangju-Sunch'on expressway (100 km) will be widened. The highways between Namwon and Sunch'on (72 km), Naju and Haenam (64 km), Chongup Chilbo and Imsil Kaldan (30 km), Hwasun Tongbok and Koksong Okkwa (28 km), and between Koksong Okkwa and Koksong Sokkok (19 km) will be paved and widened.

As for railroads, the Cholla line between Iri and Yosu (200 km) will be improved and the Honam line between Chongju and Mokpo (128 km) will be made a two-track line.

The Mokpo airport, which has been closed, will be repaired and reopened. A container wharf with berths for eight ships will be built in Kwangyang Bay.

**Industrial Estates:** In as much as the Honam area has fallen behind the Yongnam region in industrialization, there are plans to go ahead and build a large-scale industrial complex in South Cholla to accompany the construction of the Kun-Chang integrated industrial complex in North Cholla.

In order to have integrated development as a coastal industrial zone of the entire Kwangyang Bay area, which already has an iron foundry, container wharves and iron-manufacturing wharves will be constructed in the harbor and that region will be developed in tandem with the ports of Yosu and Samil.

In the Mokpo area, industrialization, centered on the 2.5 million pyong Taebul industrial complex which is being promoted these days, will continue to go forward. Also regional industrial complexes will be formed in such places as Kwangju and Chongju.

**Tourism:** The entire Pyonsan peninsula will be designated a national park and plans will be drawn up for marine tourism in the Tado Sea-Hallyo waterway area and between Wando and Cheju Island.



### **Rising Won Value Calls for Country's Economic Reform**

41070015 Seoul MAEIL KYONGJE SINMUN in Korean 17-19, 23-28 Nov, 1-2 Dec 87

[A special report by a team of reporters on rising won value and its effect on the country's economy]

[17 Nov 87 p 13]

[Text] The Deputy Director of the Export Department of Kukje Company, Kwon O-to recently has experienced a great deal of difficulty in finding subcontractors.

He had combed the Pusan area looking for a small or medium-sized company which he could entrust with an order of 50,000 pairs of jogging shoes at a price of \$7.20 out of a lump-sum order that he had received from the U.S. buyer Converse. All the companies he found refused to take the order at a price of less than \$7.80 on the ground of lack of profit.

Mr Kwon, judging that he either had to terminate the contract or raise the export unit price, started to try to persuade Converse. At his first request for price hike, Converse Company refused very coldly by saying in a word—"no."

With his persistent persuasion, Mr Kwon succeeded in raising the unit price to \$7.70. After contacting subcontractors again, he was able to entrust the order to Sinu Enterprises, which initially asked \$7.80 per pair, after begging them. Finally, he was able to breathe easily.

Since the emergency signal to "find a subcontractor" fell to large shoe manufacturing enterprises such as Kukje Company, the demanding attitudes of people in charge of subcontract divisions in the large companies has become less so and they have become humble.

The decreasing profit resulting from the strong won brought a change in the relationship with subcontractors. However, there has been an increasing number of orders being turned down by small and medium subcontractors because they cannot continue to operate their businesses in the red.

This is clearly indicated by the 70 or so closures of small and medium shoe manufacturers in the Pusan area from the beginning of 1987 until the present. The phenomenon of difficulty in finding subcontractors was created when large shoe manufacturing companies entrusted subcontractors with orders for low quality shoes at \$4 to \$6 per pair.

In the case of canvas and rubber shoes, the net profit rate hovers at around 6 to 7 percent, while the appreciation of the won has exceeded 7 percent, making continuous export very difficult. For high quality shoes exceeding

\$10 per pair, there is some room left for exports because big buyers such as Reebok are cooperative about unit price raises recognizing the quality standards for Korean products.

The shoe industry is only one example of the after effects of the strong won, whose influence is widely felt in every export industry, although the degree may differ.

Export goods whose accounts are settled with dollars amount to 92 percent of all exports. Large conglomerates are no exception. Hanil Synthetic Fiber and Textile Company has had to endure an exchange loss totaling 18 billion won this year. It has to endure 400 million won worth of exchange loss each time the won value goes up by 1 won. Out of this amount, 130 million won can be offset by the reduced cost of imports.

As a result, 270 million won worth of exchange loss will accrue when the won-dollar exchange rate appreciates by 1 won. Therefore, if the rate appreciates by 67 won, the calculation is that it will lose a total of 18 billion won.

However, the conditions in such industries as Hanil Synthetic Fiber and Textile Company which import raw materials from the United States, manufacture high price goods whose export prices can be raised, or who can obtain facility equipment loans, are relatively favorable. Several industries such as the shipbuilding and garment industries, which depended on the price competitiveness of such goods as low price shoes whose price is difficult to raise, have been fatally hit.

As for the shipbuilding industry, four shipbuilding companies alone such as Hyundai Heavy Industry, Daewoo Shipbuilding Company, Korea Shipbuilding and Engineering Corporation, and Samsung Heavy Industry will suffer 44 billion won worth of exchange losses this year. The shipbuilding industry, which is searching for an escape from recession in a world market recovery, is experiencing another blow from the appreciation of the won. Furthermore, from this month, shipbuilding equipment and resource companies have requested order negotiation in won, making it even more difficult to recover profitability. In order to avoid an exchange loss, the shipbuilding yard must receive orders at an exchange rate of 2 years later. Therefore, the present situation creates an atmosphere in which companies fear to receive new orders.

The tent industry now has to face a total exchange loss resulting from an export contract made this April with a fixed base price of "one dollar = 800 won," believing the government when it promised that "The year-end exchange rate will be fixed at around 800 won." This year, basic cost raising factors amounting to 6 percent surpassed the normal profitability rate of 4 percent with increased raw material costs, increased labor expenses, and the appreciation of the won. As a consequence, the industry has been exporting at a loss by 1 to 2 percent since August.

Business observers see that profitability will deteriorate in industries such as the garment industry which are heavily dependent on unskilled labor.

In particular, as the exchange rate falls to the level of 700 won, it is expected that marginal businesses will appear in succession, causing an overall shrinkage in the export atmosphere.

The electronic industry, which originally was expected to survive without much difficulty with the exchange rate falling to 700 won, is facing hardship with excessive competition in the international market. The business situation has worsened in such industries as steel, paper, toys, machinery, and automobiles.

The rate of decreasing profitability for this year based on a 7.7 percent appreciation of the won was estimated by the Korea Traders Association at 6.1 percent. It is calculated that the rate of profit for other manufacturing industries was 7.3 percent; paper goods, 6.8 percent; leather goods 6.5 percent; metals and machinery, 6.4 percent. This rate is double last year's ordinary profit margin of 3.5 percent for export industries.

The appreciation of the won became even more difficult to recover from in light of the fact that the speed of appreciation accelerated simultaneously with labor management disputes, subsequent wage increases, a price cut offensive by newly developing countries, and import regulations. In order to recover profitability, export industries are following the strategy of raising export unit prices and improving productivity. However, it is feared that the effort to maximize productivity might touch off labor-management disputes.

[18 Nov 87 p 7]

[Text] Mr Yi Chong-hyon is president of the medium sized Yihwa Trading Company which exports \$7 million worth of leather clothing annually.

These days, he has formed a new habit. At 8:30 am every morning, he comes to his office and reads all the newspapers to check on the exchange rate.

He also reads almost all the research materials published by related reserach groups.

He has developed the habit of getting bank negotiation papers in person, and predicting and analyzing the future trend of the exchange rate in his own way.

Not only is he making more frequent contacts with people in his business but also more telex contacts with his regular clients.

His daily life has become much busier.

When he conducts export negotiations with buyers, he always calculates prices by taking the current exchange rate and the estimated future exchange rate. On this basis, he negotiates intensely by pushing and pulling over prices with buyers.

He became very interested in the exchange rate because he has suffered significant losses due to the rapid depreciation of the exchange rate during the first half of this year, and the exchange rate seems likely to continue to fall in the future. He disclosed that "one cannot export without knowing the exchange rate in the future."

Even at the end of last year, people were not too concerned about the exchange rate. He explains that he suffered approximately 100 million won worth of exchange loss during the first half of this year because of his previous lack of concern.

During export negotiations at the end of last year, his company based the exchange rate for shipments which would have been completed in the first half of this year at the then current rate of 860 won. It had the same effect as receiving 820 or 830 won for export goods worth 860 won.

President Yi confessed how complicated his feelings were at that time, not being able to fall asleep due to the various thoughts in his mind.

That was not all. This year, the price for imported raw material (leather) soared by 35 to 40 percent, thus causing the price of unprocessed cloth to increase from \$1.20 to \$1.60.

Furthermore, because of a decrease in trade finance units, he had to absorb a considerable financial burden.

Domestic suppliers, who used to settle accounts with 1 to 2 month bills, now demand cash.

Entering the second half of this year, it has become very difficult to determine where to base the exchange rate for price negotiation.

The exchange rate during mid-June was approximately 810 won. He predicted the year-end exchange rate at 795 to 800 won.

According to the analysis around him and his own judgement, he predicted the exchange rate might stay at that level.

He could not ignore the premonition that his buyers would not listen to him if he based the exchange rate too low.

However, the wall of exchange rate of 800 won crumbled so easily. If this trend continues, the year-end exchange rate could fall almost to 780 won.

President Yi decided to examine the effect of exchange rate fluctuation on his business profit.

During the second half of this year, there has been no serious difficulty because he dealt with the change in his own way. However, the problem was next year. In the leather garment industry, the average profit rate is 10 percent. Out of this, if one subtracts 4 to 4.5 percent of direct expenses and approximately 4 percent of indirect expenses, the net profit amounts to only 1.5 to 2 percent. The percentage change in the exchange rate since the end of last year amounts to about 8 percent. Counting only 40 percent of total sales which are settled in won and excluding the remaining 60 percent of total sales which represent the raw materials which are not affected by the exchange rate, 3.2 percent of profit reducing factors have been created since the end of last year. On a net basis, the end result becomes negative.

President Yi says "We can barely make it while trying to reduce basic costs and continuously raise unit prices since the second half of this year." It was possible because he could impose some of the rising raw material costs and the exchange loss on buyers. However, the problem begins now. As he has kept trying to raise unit prices in order to impose the anticipated exchange loss on the buyers, they are not eager to listen any more.

On the afternoon of 28 October, President Yi had a long argument with his regular client, a U.S. department store buyer, over the unit price for an order of leather jackets worth \$1.1 million.

The unit price requested by the buyer was \$30 per piece. President Yi offered \$38, applying an exchange rate of 770 won considering the fact that the goods would be shipped in January or February of next year.

Even though the buyer made another offer of \$34 by facsimile several days later, President Yi could not accept the offer.

With a net profit of 76 cents per piece, he could make \$22,800 for 30,000 pieces, making it impossible for him to slash \$120,000 with \$4 each.

Several days ago, he conducted another business negotiation worth \$700,000 with a buyer for a U.S. famous brand manufacturer. However, because of a price difference of \$10, they are still contacting each other.

These examples can be found very frequently.

He says he feels totally exhausted when buyers say that "We understand your situation, but we are merchants, too," after he has explained over and over again until his mouth is dry.

As regular mass orders are discontinued, one after another, President Yi feels his mind grow heavy thinking of operating his factory.

Coinciding with the off season, the number of subcontracting companies has decreased from 12 to 8.

The method of payment to domestic suppliers has also changed from notes to cash, worsening the financial situation even further.

His plan to expand his production line early next year has been cancelled. Thinking of the prospect of the won-dollar exchange rate falling to the level of 730 won, president Yi felt a heavy burden on his heart. There is a limit on how much one can raise a price for a similar product. The burden for labor costs will increase.

President Yi made a gloomy prediction saying that "There will be quite a few business closures among small garment businesses."

[19 Nov 87 p 7]

[Text] Acting director of the Export Division in Central and South America of Hyundai Automobile Company, Min Yong-sik could not conceal his despondent look after receiving an overseas telex on 13 November. A day earlier, the company board had decided on a price raise for export cars in 1988. By noon today, Acting Director Mr Min finished notifying 30 countries including Chile and Panama by telex about the price raise for the Excel and the Presto.

In the case of Techno Company in Panama, President Racael sent a protest telex immediately after receiving that telex. It said "In light of the fact that the sales have just begun to increase, please reconsider it."

As long as the price increase is a company decision, Mr Min decided to appease the opposition from dealers from 30 countries including President Rachael and attempt to persuade them by 21 November.

On the basis of an exchange rate reduction of 30 won per dollar, Hyundai Automobile Company loses 66 billion won with its export target of \$2.2 billion.

As the size of exchange losses snowball, people in charge of exports have become very tense.

Furthermore, considering such factors as the additional appreciation of the won anticipated for next year, wage increases, and price increases for imported parts due to the high yen, one cannot avoid raising export prices.

Such a phenomenon is not unique in the auto industry.

Even for general trading companies which can pass on some of the exchange rate fluctuation, they are in same situation if they have their own production facilities.

Mr Song Yong-hui, director of the mineral department of Ssangyong Inc. which has dealings with Ube Chemical Company of Japan, is having a serious headache over

export price negotiations because Ube Chemical Company, which imports dolomite in order to extract magnesium, is completely ignoring the price negotiation offered by Ssangyong. Ube, which has been purchasing \$3 million worth of goods, has adhered to a price of \$25 per ton since the beginning of this year.

Ube disclosed that it will change its import line to the Philippines, which offers \$22 to \$23 per ton for lesser quality, if Ssangyong raised its price. Lacking any alternative, Ssangyong continues to export. However, if the appreciation of the won continues next year, Ssangyong is expected to lose this market. Besides dolomite, the other main mineral exports such as kaoline are expected to be hit.

In the case of the textile division of Daewoo Inc., things are even worse. Upon receiving a request for price adjustment, Sears & Roebuck and K-Mart of the United States, which import \$100 million worth of textiles annually, are avoiding business negotiations threatening to change their import lines. If Daewoo raises its price, they threaten that they will go to Hong Kong or Taiwan.

Jim Baker, a buyer for one of these companies, who recently visited South Korea for business negotiations, showed the quoted price from Hong Kong. It was far below Daewoo's price.

He emphasizes that even though Daewoo products are price competitive with Southeast Asia, he cannot help changing his purchase line to those areas if Daewoo raises its price. As a result, people in charge of the textile division, who were waiting to offer their plans for price adjustment, felt their spirits dampened.

These buyers are not unaware of the appreciation of the won and deteriorating profitability. They resolutely avoid price negotiations by simply arguing they have to make a profit and preserve stability in their financial system.

One authority in Daewoo said that delivery of goods itself is in an unstable phase. He was gripped by fear that some textile exports might be interrupted if the won continued to appreciate next year.

Kukje Trading Company recently failed in business negotiations with (Sunwoo) of Italy over an order for 50,000 pairs of leather sneakers. This company adopted \$15 per pair as its bottom line, but the buyer insisted on \$13.50. Thus, the negotiations fell through.

In spite of several contacts, they were not able to come close to narrowing the price gap. As for Kukje, factors supporting a 20 percent increase in export prices have been created, such as a 3 percent price increase for imported leather, a 17 percent wage increase, and a 7 percent exchange rate drop. As Kukje attempted to raise its export price, buyers began to break away one by one.

People in the export division at Daewoo Automobile Company, Kia Industry, and Samsung Heavy Industry, which have started with OEM export (production for export under the purchaser's brand), also have become very busy recently.

The managing director of the Export Department at Daewoo Automobile Company, Pak Kon-u, has conducted several negotiations with GM of the United States on export price adjustment for Le Mans. He recently flew to Detroit, GM's headquarters, for negotiation. In addition to negotiating with GM's president, Daewoo Chairman Kim U-chung is also negotiating with GM Chairman Smith.

So far, however, the U.S. side has showed no indication of concession.

The same case applies to Kia Industry.

Kia insisted that it had to increase the export price for the Pride because the exchange rate had appreciated by 7 percent from the time when it first began exporting at the beginning of this year and basic production costs such as labor costs had increased. Through a tri-party negotiation including the Mazda Company of Japan, Kia urged technology transfer and domestic production of auto parts.

The Ford Company and the Mazda Company, which are Kia's joint venture partners, are showing very passive attitudes not only towards price negotiations but also towards domestic production of auto parts.

Last year, Samsung Heavy Industry negotiated an OEM export contract for \$1 billion worth of fork trucks with the Clark Company of the United States for the next 10 years. It began shipping from this year. Even though there are escalator clauses dealing with changes in the situation including exchange rate fluctuations, the Clark Company has a different viewpoint.

The Clark Company is procrastinating by saying that they should negotiate taking exchange profit deriving from imported materials into consideration. Even though Samsung has proposed a new alternative to this, Clark's reaction has been very cold.

Samsung, which has to export 100,000 units of fork trucks for the next 9 years, has felt all the more keenly the difficulty of executing an already completed international business deal. Such business disputes deriving from exchange rate fluctuations are not unique to Samsung only. As a consequence, the export industry is experiencing extreme difficulty, being caught in a trap of the appreciation of the won from the beginning of business negotiations to the execution of transaction.

[23 Nov 87 p 7]

[Text] The wish of the resource part of the trading section at ramyon maker Nhongshim is a "Wish for international palm oil prices to be stablized..."

The international market price for palm oil, which comprises 40 percent of ramyon's basic cost, increased 20 percent this year from \$290-\$300 per ton and currently sells for \$350-\$370. Nhongshim, which spends \$13 million for 40,000 tons of palm oil annually, not only has to suffer basic cost pressures but substantial losses as well.

However, Nongshim, with the help of continued appreciation of the won and lowered tariff rates, was able to absorb the increased international palm oil price factor and to continue a monthly sales growth of 30 percent.

Since late September this year, domestic coffee manufacturers such as Dongsuh Foods and the MJC Company have been paying great attention to the unusual trend in the international market price for coffee beans.

As the International Coffee Organization, which is an organization of coffee producing countries, adopted production quotas in order to prevent a price decrease for coffee beans, the price for coffee beans jumped 16 percent at once.

In light of the fact that coffee beans take up 80 percent of the manufacturing cost, the increase in the price of coffee beans is connected to the increase in the basic price and to consumers.

Fortunately, the high won has acted as a buffer for a substantial part of raw material price increases until now.

It is true that the phenomenom of the high won has an effect of pouring not a little vitality into business management depending on the kind of business.

It is obvious that the high won is a desirable phenomenom to industries which import raw materials and make domestic sales, such as food, film, tourism, and oil importation.

This is supported by an analysis report on the effect of the high won made by the Dusan group among 17 subsidiary companies.

During this process in which the effect of high won was categorized with four ratings as good, steady, a little disadvantageous, and disadvantageous, three companies came out in the A-class or good; Dusan Industry, Dusan Grain Industry, and Dusan Computer Company.

As for Dusan Industry, which imports raw material for films and then manufactures Kodak Film, and Dusan Grain Industry, which manufactures edible oil with imported materials, the high won brings a direct maximization of profit.

There was no subsidiary company within the Dusan Group categorized as class D.

The attitudes of food groups such as Lotte, Haitai, Miwon, and Jinro regarding the appreciation of the won as a fire across the river originate from their self-analysis that the high won does not bring losses to domestic industries such as food industries, though it might not bring great profits either.

Even an atmosphere of business expansion is being created in the edible oil industry where imported beans are an absolute majority of the primary cost of all manufactured goods.

Samyang Foods Company, a new edible oil business after Dongbang Oil and Cheil Sugar Manufacturing Company, has vastly increased its bean processing capacity from 300 tons to 700 tons per day. It has joined the edible oil market in full swing.

The appreciation of the won and the increase in foreign exchange reserves cannot be omitted from favorable factors for the domestic tourist industries.

The plan for substantially increasing the ceiling for personal expenses for traveling abroad is considered a very encouraging phenomenon.

Lotte Tours has expanded their tour line, Family Tour Program, which is an overseas group tour for domestic people, from Japan and South East Asia last year to five tours including the United States and the Europe.

Lotte Tours disclosed that the current price for a 15 night-16 day tour of the United States and Canada is 2.63 million won, and that it would lower the price next year if the high won phenomenon continued.

Besides this, other tourist agencies such as Hanjin, Sebang, Taehan, Kolon, Korea, Samhee, Sejung, Hansun, Aju, Seoul, and Hanju also began overseas tour sales, and they are promoting the full scale tour course adjustment and program diversification.

The oil industry is also enjoying the benefit of the high won.

The oil industry has suffered serious financial difficulties due to production period reductions this year. Yukong, which imports 90 million barrels of crude oil annually, has prepared emergency measures such as increasing investment by 53 billion won.

In this case also, the high won has made a great contribution to solving the financial difficulties of the oil industry.

Whenever the dollar exchange rate falls by 1 won, the exchange profits of 3/100 won per barrel are reabsorbed into the oil industry fund. However, since the oil industry fund is adjusted on the 15th day of each month, the industry can use that fund for 15 days. While the high won increases the price competitiveness of imported goods, it also indicates a sharp increase in imports.

In the case of cosmetics, \$1,105,000 worth of cosmetics already had been imported by October, and the annual imports by the end of this year are expected to reach \$1.6 million, which is twice the size of last year's imports.

The number of companies importing cosmetics have increased to 44 with 17 new companies at the second half of this year alone joining famous brand makers such as Pacific Cosmetics Company, Hankuk Cosmetics Company, and Rami Cosmetics Company.

Twelve companies joined the wine industry, whose import markets opened in the second half of this year.

However, the high won does not necessarily affect these industries only in a favorable direction.

In light of our economy which is heavily dependent on exports, the domestic economy is bound to shrink as exports lag behind.

As a consequence, these industries are not entirely unaffected by the high won.

[24 Nov 87 p 13]

[Text] At the beginning of last March when the won exchange rate was going up every day, representatives of the textile industry gathered in the conference room of the Textile Industry Association in the Korea Traders Association building. They concluded that the only long-term strategy to cope with the strengthening of U.S. import regulations and the appreciation of the won is to move textile factories overseas.

In that meeting where the President of the Textile Industry Association, Kim U-chung and other textile industry leaders gathered, the idea of investing in the United States in addition to Southeast Asia and Central and South America was positively discussed. On 23 July, only 4 months after that meeting, the Textile Industry Association announced that it would construct a large-scale comprehensive textile plant worth \$100 million in the United States. This plan has been progressing steadily and construction of a factory with joint investment by the industry will start in the first half of next year at the latest.

Prior to this, in early July, Kuncha Enterprise, which is a sweater exporter, disclosed that it alone would invest \$20 million in South Carolina in the United States. Many domestic textile industries have already engaged in overseas investment for several years. However, as the appreciation of the won accelerated entering this year, the trend is to increase the size of investment and diversify invested areas.

The first thing that the domestic industry chose to do in order to avoid the appreciation of the won shock was to escape from Korea for its production sites. The businesses which are most eager about overseas investment other than labor-intensive industries such as textiles and shoes are general trading companies. It is not only because they are large exporters, but they also are first to recognize changes in exchange rate fluctuations.

As the news that the exchange rate had dropped to 800 won per dollar spread in early November, all Ssangyong employees were put on emergency status. In the countermeasure conference held that morning, a plan for operating a unit to continuously study measures for dealing with exchange rates was proposed. Next day, a countermeasure unit consisting of all directors including the president and heads of four departments was formed. In its first meeting held the next day, the participating members unanimously agreed on the idea of overseas investment expansion.

Director of the Planning Department Kim Chang-hwan argued that the company's future depended on overseas investment by saying "In light of the fact that appreciation of the won is expected to continue for the time being, now is the time to thrust ourselves abroad enthusiastically."

He strongly asserted that overseas investment should be taken seriously with the company's destiny at stake unlike in the past when overseas investment was merely supplementary.

The countermeasure unit immediately formed an overseas investigation team headed by director of the second textile department, Chong Uk. After a week of research, the team selected Indonesia as the first candidate for foreign investment. The team left for Indonesia.

Needless to say, Indonesia, which suffers from high unemployment, welcomed the advance of a South Korean general trading company with technology and capital.

On the basis of the research report made by the overseas investigation team, the exchange rate countermeasure unit decided to build a garment factory in Indonesia with a \$10 million investment. Construction of a garment factory in Indonesia is not affected by quotas.

The wage rate is 1/10 of the domestic level. However, what is more important is that one can avoid exchange rate outbursts here. Because the Indonesian currency is linked to the dollar, export prices drop more than 10 percent compared to domestic export prices. Furthermore, if one takes the lower wages into consideration, the export price falls even more deeply.

Ssangyong completely adopted overseas investment expansion as its business target for next year.

The shoe industry also is very busy in searching for exchange rate countermeasures. The shoe industry will have great difficulty in making both ends meet if the won appreciates more than 10 percent.

Hwasung, Ltd., which has selected Thailand for its breakthrough investment site, dispatched a research team to Thailand. The outcome of that research team's study is said to be that the proposal is "worth doing".

Venturing overseas is not as easy as it sounds for domestic enterprises, because they have little experience in that area. It is the same as founding a new company to operate a factory in foreign countries where there are vast differences in customs, culture, and institutions.

While aware of the risks, Lucky-Goldstar set up a local corporation called Majahak Electric Engineering Company located in Nabanikon Industrial Site in Thailand in a joint venture with Majahak Company of Thailand in 1979. Since the establishment of that company, it has continuously suffered losses. Incidentally, the time when Majahak Electric Engineering Company went into the black coincides with the time of the dollar collapse in late 1985.

The Thai President of Majahak Company Chabarit explained by saying that "Since the dollar collapse, export conditions have significantly improved. Countries like Japan, West Germany, and Taiwan are flocking to Thailand in order to lessen the impact of their currency appreciation."

In Thailand, the Ministry of Investment, which is run directly by the Office of the Prime Minister, is actively engaged in foreign investment inducement.

Besides Thailand, there are other countries that seek the entry of South Korean businesses.

The efficiency of investment can be raised in countries with strong currencies such as Japan and West Germany not to mention those countries with weak currencies like the United States.

However, foreign investment by our industries is still very meager. Even though the total investment record of \$1.14 billion up to the end of last August greatly increased compared with \$200 million in early 1980's, it is only a beginning compared to the \$100 billion of

Japan. Professor Chi Yong-hui of Sogang University explains that the reason for slow foreign investment is "because our business enterprises have been accustomed only to currency depreciation." He emphasized that "Since further appreciation of the won is expected in the future, small and medium industries, not to mention large industries should look abroad."

[25 Nov 87 p 7]

[Text] "Education on Successful Example of the High Won"

Samsung Mulsan organized meetings on measures to counter the appreciation of the won in each division from 14 October to 30 October.

They combined with the announcement of meetings for public and private examples of coping with the won appreciation situation which have been conducted since the end of last year when the won value increased rapidly.

It is because the won value, which has increased gradually, has caused an unnoticeable deterioration in export profitability, even though the appreciation of the won in the beginning had been endured without much difficulty.

As a consequence, Samsung Mulsan began a company-wide campaign in order to find a fundamental measure to cope with the situation as the appreciation of the won accelerated recently.

One of the measures Samsung Mulsan took in order to confront the high won was market diversification, which includes not only export markets but also goods, import lines, and the method of settling accounts.

Even though Samsung Mulsan has continuously worked for market diversification, its enthusiasm has increased this time.

The method used to promote exports to Japan taking advantage of the strong yen has achieved remarkable results. By holding local touring exhibitions with its internally designed goods, it accomplished records beyond expectations. The best example is that it exceeded \$100 million in exports to Japan with a single item of textiles by 24 October, the first among domestic textile companies.

Samsung Mulsan, assisted by this achievement, decided to hold textile exhibition tours in Japan twice a year and to actively participate in various professional exhibitions held in Japan.

In Europe, Samsung Mulsan is strongly encouraging participation in the local currency market. In order to eliminate its heavy export dependency on the United States and increase exports to strong currency countries,

Samsung Mulsan plans to substantially expand its network of overseas branches. It has added 53 resident business representatives in Southeast Asia and Europe this year alone. It plans to set up an office in Sri Lanka also.

By setting up area task forces which will carefully study specific markets, Samsung Mulsan is designing a strategy to deeply penetrate into a market.

Samsung Mulsan is strengthening its advance into strong currency areas because trade with these areas can compensate for exchange losses to a certain extent.

Other trading companies have also turned to market diversification. Lucky-Goldstar Trading Company has placed less emphasis on the U.S. market and has been exerting great efforts in expanding markets in Japan, Europe, and Central and South America.

For this purpose, Samsung Mulsan has already established three new overseas branch offices in Central and South American countries such as Chile, Argentina, and Brazil.

Samsung Electronic Company along with other electronic companies, which are also actively involved in market diversification, is focusing on an offensive strategy towards the Japanese market and is making good progress. Since it exported large 20-inch color television sets to Japan for the first time last September, Samsung Electronic Company has been steadily expanding its market and has acquired Japan's large superchain, Jasco Best as its local dealer.

Samsung Electronic Company, which decided to export 20,000 14-inch television sets under its own name, is minimizing the won exchange loss by taking advantage of the strong yen.

The machinery businesses are also struggling to lessen the won appreciation damage through market diversification. On 26 October, an export promotion team for machinery and plant organized by 14 enterprises toured Southeast and south west Asia for business negotiations and accomplished a remarkable outcome.

South Korean machineries were more competitive than Japanese ones at that time and were highly acclaimed by local industries.

The auto industry is also vigorously pursuing market diversification.

The export division at Daewoo Automobile Company recently proposed a revised export plan for the next year to its management. The plan, while indicating that the average exchange rate was expected to reach 750 won

next year, established the lowering of export dependency on the United States as its essential point. Daewoo already, in early November, has successfully exported 250 Le Mans to Taiwan.

Taking advantage of the momentum from this beginning, Daewoo is currently in the process of promoting exports to Japan and is even planning to land in Japan next year.

Even though Daewoo initially set the export ratio to the United States at 100 percent, it plans to lower this figure gradually from next year.

Kia Industry also is actively involved in market diversification by setting up a branch in Hong Kong.

Hyundai Automobile Company also is planning to escape from its lopsided U.S. export phenomenon as the appreciation of the won has accelerated rapidly.

It is also considering increasing importation as a way of narrowing the exchange loss created by exports.

Conglomerates such as Daewoo, Lucky-Goldstar, Kolon, and Dusan have begun selling imported cars, liquor, cosmetics, and home electronic equipment since the introduction of import liberalization measures.

That is to compensate by import sales for their deteriorated export profitability due to the appreciation of the won.

These companies plan to raise their import rate from the current level of 10 to 15 percent of their total sales to the 20 percent level by next year.

Even though each industry is actively pursuing market diversification, it is only at the beginning phase.

The manufacturing industries, which have lacked the capability of developing new markets until now, have mostly depended on trading companies.

However, as the scale of appreciation of the won became larger than expected, the industries themselves are showing deep concern about export diversification.

That is the reason why there have been cases of soaring expansion of export divisions and dispatch of research teams to appropriate areas.

As long as the appreciation of the won continues, it is likely that the exploration of new export markets will be further promoted.



[26 Nov 87 p 7]

[Text] Pohang Iron and Steel Company(POSCO) announced on 12 November that it would begin its third phase construction in Kwangyang in October 1989, adding a conditional clause, which was that it might begin construction 1e year sooner, that is, in October 1988.

Although POSCO has given the surface explanation that this move was in order to cope voluntarily with a steel shortage situation, which is daily becoming serious, it actually is to maximize use of its idle labor force by starting early.

When 500 construction workers are idle, the annual labor cost alone would amount to 3 billion won. This suggestion of possible early construction of the Kwangyang third phase is a product of an internal endeavor to cut down basic costs. All the decisions made at POSCO recently have dealt with focusing on strengthening the company's financial structure and POSCO has actively pursued measures for rationalized management. The reduction of construction time by 6 months for the Kwangyang first phase, which was completed last May, can be also understood in this context.

POSCO has already begun its 3-year plan for strengthening the company financial structure and has been attempting to transform itself into a rational steel company. It decided to raise its automation rate from 62.4 percent in the beginning of this year to 79.9 percent at the year-end.

While it plans to increase the ratio of factory operation days to the level of 90 percent escaping from the 80 percent level, it also plans to lower the average number of days of inventory of work materials from about 90 days currently to 87 days by the year-end.

POSCO affirmed its position that it would increase the amount of imported raw materials such as iron ore from the current level of 50,000-150,000 tons to 200,000 tons as a means of effective supply of resources.

It also decided to reduce energy consumption from 5,205 calories to 5,096 calories per ton, thus causing a 5.7 percent energy reduction.

These plans will save 90 billion won worth of manufacturing costs this year alone through these various methods of reducing basic costs and improving manufacturing processes.

In particular, while POSCO exerts efforts to reduce the risks involved in the bold investment in the Kwangyang steel plant such as continuous expansion by productivity increases and basic cost reductions, it also makes efforts to pay off bad loans early, and to modernize the warehouse facilities at the same time.

In other words, the strategy of POSCO is to offset profit losses from the high won with the reduction of basic costs through its comprehensive efforts.

These efforts to reduce primary costs are made by all entrepreneurs regardless of the size or the nature of their businesses.

As the won exchange rate against the U.S. dollar dropped below 800 won, their efforts to reduce basic costs became more specific.

The shipbuilding industry is also seeking a way to survive through the reduction of manufacturing costs.

On last 26 September, the staff and employees of Samsung Heavy Industry were deeply touched when it delivered the 186,000 ton lightship Jasmin to Taehan Maritime Company, from which it received the order.

It was because the delivery time was shortened by approximately 4 months, saving 3 billion won in manufacturing costs. Furthermore, the early delivery was able to accomplish two tasks of reduction at once by reducing dollar base settlement accounts in the midst of the accelerated appreciation of the won.

The workers' cooperation in reducing the construction period brought unexpected profit increases.

The paper, automobile, shoe, and textile industries are also exerting vigorous efforts in order to overcome the high won.

The "L-2500" movement of New Murim Paper Manufacturing Company, which started during last October, has already proven to be very effective in less than 2 months.

That movement is a strategy to minimize the loss caused by the high won by saving 25 million won per month.

The production division saves 20 million won per month by material and energy conservation and work method improvement, while the engineering office saves 5 million won monthly by substitution of tools and water conservation.

Other companies such as Shinho Paper Manufacturing Company, Onyang Pulp Company, Dongshin Paper Manufacturing Company are also pursuing "250-day operations" since the second quarter of this year.

Operation of the Coil Center by three automobile and home appliance companies, which saves 5 percent in basic material purchase prices by mass purchases of iron and steel, is also a part of their efforts to increase productivity and reduce basic costs.

Hyundai Automobile Company can save 11.5 billion won by the Coil Center operation.

The fact that each group has recently begun to strengthen or specialize its resource management departments is also considered to be a living example of efforts to overcome the high won.

The warehouse automation pursued by SKC of Sunk-yung Group and the cost innovation team organized by Daewoo Group are also based on the idea of basic cost reduction.

The "Aggressive-88" movement promoted by Hankuk Electronic Company with the company's second founding as a motto is also a way of increasing productivity. Another measure for overcoming the high won is plant automation and labor saving. Each industry plans to reduce labor costs and improve product quality by plant automation.

Garment factories are more enthusiastic about automation than any others. The only way to raise export prices in order to cope with the appreciation of the won is to raise the quality of the product. In order to produce products with equal quality, one should depend on machines rather than on human hands.

Garment companies such as Sokwang, Sekye Mulsan, Sinsung Trading Company, and Ssangma Textile Company have begun to improve their product quality by gradually increasing their automation. Sweater manufacturing companies such as Yurim, Chonji Industry, and Hyeyang Textile Company are producing sweaters costing more than \$100 per piece through their quality improvement.

The cotton industry is no exception. Most cotton industries such as Kyongpang, Chonpang, and Kukje Thread Manufacturing Company set out to repair and change equipment in order to produce Coma thread, which is a high value-added product.

In short, the way to overcome the high won can be focused on reducing the manufacturing cost and receiving an appropriate price.

That is the reason why all industries have been exerting their total efforts to raise export prices through inventory control, reduction of construction time, and product quality improvement.

[27 Nov 87 p 11]

[Text] Fashion company Nasan Enterprise has exported women's one piece dresses at a price of \$100 per piece to Aoki Trading of Japan, becoming a subject of conversation in the fashion industry.

Even though the export volume amounted to only \$50,000 with 500 pieces, its high price drew attention. The Managing Director of this company, Yang Tongchin emphasizes that the only way to overcome the high won era is to develop high value-added goods, saying

that "We have developed a design with a taste favored by the Japanese people after having sent our designer to reside in Japan for a long time. At first, buyers asked in negotiations for OEM. However, we refused because we could not have received high prices."

The apparel industry has become very enthusiastic about producing high quality products because there is a limit to adjustment of unit prices with its current export products.

Increasing export prices can be done only through improving product quality. Therefore, the industry is working on its transformation into a small quantity production system with a diverse product line through automation of production procedures.

The industry has significantly expanded overseas study programs for its designers and has been actively looking at developing new material such as unprocessed cloth. However, because of the lack of cooperative development efforts among companies, the development of new material and designs is only at the beginning stage. Technical assistance agreements with famous foreign brand makers such as Pierre Cardin and Yves Saint Laurent are another way of improving product quality.

Even though paying a large royalty is a big burden in the immediate sense, it is imperative to learn their sense of fashion and varied design. The phenomenon of the industry's transition into the production of high quality products is particularly conspicuous in a labor-intensive industry.

Kukje Trading Company is close to staking its destiny on the trademark, "Pro-Specs to the World."

It has realized the limits to growth using a mass order production system, and has been renovating its management system. It has taken and has been promoting a "Pro-Specs to the World" strategy, under which it produces high quality goods in the production area and exports under its own brand name in the sales area.

In order to transform itself from the largest shoe exporting company to the best quality product exporting company, Kukje Trading Company recently has organized eight project teams in its shoe headquarters.

The duty of these teams is to establish an organic cooperative system between the production division and the sales division.

Consistency between sales and production systems is essential to introducing various marketing tactics appropriate for specific areas.

Expanding the vision to the entire world is a characteristic of this 3-year plan for producing top quality goods.

First of all, Kukje is trying to obtain official international recognition, which is its major business task, in order to raise recognition for its products in the world market.

Its boxing shoes have already obtain official recognition from the WBA and the WBC and its basketball shoes have obtained official recognition from the NBA, the U.S. professional basketball league.

Kukje Trading Company is planning to raise its official recognition for 31 kinds of technical shoes that it currently manufactures by obtaining official recognitions from all the authorities concerned.

That is also the best self-help remedy to minimize the restraints imposed by famous brands in the world market.

Another characteristic of the strategy in manufacturing top quality products is considering the specifics of each area in conducting marketing.

This strategy attempts to differentiate from a good beginning in the production processes in order to break the barrier of different consumer tastes in each country.

This strategy also invests heavily in overseas advertisement.

After concluding that product advertisement should come first in order to give a high quality image to consumers, Kukje Trading Company plans to invest approximately 1 billion won in overseas advertisement.

Along with this, Kukje is currently looking for an active advertisement strategy which will expand its participation in world renowned exhibitions and product shows and set up high class local exhibition centers.

Efforts to elevate the product quality and increase the value of products are currently being made by all industries.

The movement to make the best product in the world is being kindled by a large number of exporting companies with KOTRA as the center of the movement.

Since the government, in particular, is planning to select 100 promising export items as industrial products which will be made the best in the world, and to provide assistance for establishment of the production basis for those products, the fervor for manufacturing high quality products is likely to continue to rise.

Heavy industries such as autos and shipbuilding also share the opinions that export price increases should be followed by product quality improvement.

Hyundai Automobile Company spends 4 percent of its total sales on investment in technological development.

As the appreciation of the won has accelerated, Hyundai is pursuing material development and planning to adopt a strategy to raise its automobile prices from next year.

The shipbuilding industry has begun to receive orders to manufacture high value-added ships such as petrochemical ships as a way to increase its profitability.

Home appliance manufacturers such as Samsung, Kum-sung, and Daewoo Electronic Company are exerting concrete efforts to organize a combined countermeasure task force to master difficult technologies. Each company is studying a system in which a domestic inspection agency would be set up to perform overseas quality control approval on behalf of the manufacturers.

The ratio of OEM exports (export under the buyer's brand) of major industrial products in our country amounts to 88 percent.

In light of the fact that there is a 20 percent difference in profit between OEM exports and exports under the manufacturer's brand, exports under our own brand through high quality products is the most definite way to overcome the high won situation.

[28 Nov 87 p 7]

[Text] The textile exporting company, Samdo Mulsan hesitated for quite a while after receiving an L/C worth \$300,000 from a U.S. buyer on 10 October. It has nervously wondered about what the exchange rate will be on 11 January of next year which is the negotiation date. The purchase rate for telegraphic transfers at the time was 802.1 won. After negotiating with Korea Exchange Bank that it would be paid 794 won per dollar on the negotiation date, Samdo made a forward purchase contract. This company can breathe easily these days.

The telegraphic transfer rate as of 24 November has dropped to 793.4 won and is expected to fall far below 788 won by 11 January. If the won drops below 788 won, the company would make exchange profits to that extent. However, there also have been some cases where there were exchange losses.

As this forward purchase dealing proved to be successful, this company decided that it would expand and adopt the system as its management policy.

"Let us remove exchange risk."

That is a common task that all exporting industries face. The forward purchase has recently become a typical financial technique to avoid exchange losses. General trading companies such as Samsung Mulsan, Daewoo, and Lucky-Gold Star have already formed their own countermeasure teams and have been searching for various measures to cope with the exchange rate situation.

One of the important tasks that the team performs is to check daily exchange rates, predict future exchange rates, and inform each department of the expected exchange rate.

Even though monthly prediction is the common practice, information is provided on a weekly basis when the appreciation of the won accelerates as rapidly as it has been doing these days.

In the Daewoo group, a 1-year exchange rate prediction is offered on a monthly basis. This information is used in analyzing profit and loss and also in determining export prices.

Nobody is liable for the actual exchange rate. It only provides information which enables salesmen in the front line to work comfortably without worry.

The leading member of the exchange rate countermeasure team in the Daewoo Group, Director L says that "Nobody knows how the exchange rate will change. However, one cannot work without any definite plans for the future. Exchange rate prediction is nothing but a guide for stable business operation."

However, he indicated that the only way to reduce exchange losses in financial areas is by forward purchase, and disclosed that the exchange rate countermeasure team would be expanded to the level of individual subsidiaries.

Most general trading companies including the Daewoo Group have been instructing their subsidiaries that if they make transactions in currencies other than the dollar, they should make a forward purchase in dollars on the same day. Forward purchases between currencies other than the dollar (for example, dollar to yen) is not difficult if one uses the international exchange market.

Foreign banks in South Korea have also recently organized exchange rate teams and joined the forward purchase market. Even though there is increasing interest in the forward purchase market, its size is still very small compared to the total volume of export-import transactions.

This is because exchange dealings are difficult to make due to the rapid drop of the won exchange rate, and because there is insufficient knowledge about forward purchases among export industries.

However, as people became more conscious of the damage caused by the appreciation of the won, small and medium industries are also becoming interested in the forward purchase technique and are looking for ways to apply it.

The number of annual forward purchases in won last year in the major foreign exchange banks such as Korea Exchange Bank, Chohung Bank, Hanil Bank, Cheil

Bank, and the Commercial Bank was only 135 (\$419.5 million). However, the number increased to 393 (\$592.47 million) through October of this year.

In the case of imports, the overnight forward purchase, which is a 1-day forward purchase, is very popular.

Since these dealings hardly involve any risk, many companies which have become aware of exchange dealing, frequently use them. The foreign exchange banks, which are on the other side of these dealings, do not lose.

That is because the 1-day forward purchase price is set at a rate lower than the buying and purchasing standard rate (usually by 3 won). In fact, a certain oil company made an exchange profit worth 22.94 million won in 1 day on 18 November when it settled oil import accounts of \$5.4 million through an overnight forward purchase. Last April, Pohang Iron and Steel Company made an exchange profit of \$21,079 by making a forward purchase in dollars for the loan interest of 180 million yen before the 15th of the month. This was because the yen strengthened with the rate dropping to 139 yen, even though the exchange rate was 141.3 yen for 1 dollar at the time of the contract.

The opposite phenomenon also happens. Last June, when it received an \$1.5 million L/C, D Enterprise made a forward purchase contract at 143.6 yen per dollar in an effort to exchange into a strong yen in anticipation of a weak dollar. However, the exchange rate at the day of the account settlement was 146.75 yen, thus it suffered 4,725,000 yen worth of exchange loss.

People were not too concerned about exchange rates before the strong won tendency started. However, at a time when the exchange rate is dropping daily, forward purchase activity is advantageous.

Director of Daewoo, Inc. Kim Se-kyom urges the development of financial techniques saying "The technique involved in forward purchases by our financial institutions is at the beginning stage. Therefore, they perform forward purchase activity locally for import-export dealings. It is no exaggeration to say that forward purchases in won are not helpful at all."

A positive attitude of accommodation by financial institutions and a change in recognition by businesses are necessary at this time.

[1 Dec 87 p 13]

[Text] "Are you going to buy or sell?"

"I have about five. I would like to sell because they kept going down."

"Today's price is 80,500 won. Still I pay more than banks."

Deals are made in less than 2 to 3 minutes. This is a scene from one corner of the Myongdong exchange black market on the evening of 25 November.

The buying price of foreign exchange banks on the same day was 785.34 won, and the selling price was 809.26 won. The buying price on the black market was 805 won, the selling price was 815 won.

Foreign exchange experts describe the present time as the depression of the black market. Many people want to sell a large sum of dollars, but no one wants to buy.

Ms Paek Pok-cha (age 70, alias), a black market dealer in Myongdong, sighed saying "This is the hardest time since I started this business in 30 years." Looking back on those boom days when more than \$100,000 were exchanged in 1 day in Myongdong only, one can say that dollar black markets have almost disappeared these days.

When the dollar was scarce, the profit was considerable, too.

However, these days, nothing can be more foolish than possessing a large amount of dollars. "Last October, Ms Kim Sun-cha (age 57, alias), who is a big hand in this area, made a huge loss because she had a lot of dollars. When she suffered a big loss due to a sudden drop in the dollar, she stood up by assuming that the dollar would rise again in a couple of days. As a consequence, she lost more than 30 million won and left this business completely."

In the Myongdong area, there are approximately 40 people who live on dollar dealings, who are mostly old women in their fifties and over. They are shivering now in a "dollar cold front," which is several dozen times colder than the early winter storm blowing in the street.

According to the analysis by these black market dealers, there are several reasons for the dollar black market depression; surplus supply caused by mass selling by those people who have sold even the "dollars in their wardrobes," decreased demand caused by steep dollar depreciation, and the appreciation of the won atmosphere. As the government has increased personal overseas travel expenses from \$3,000 to \$5,000, the black market shrank even further.

The black market does not deal in dollars exclusively. It also deals in yen. The volume of yen dealing has increased sharply recently with great popularity.

The falling dollar value is even changing social customs.

In the past, people who traveled overseas kept left over dollars from their trips as preciously as if they were their family treasure. However, these days, they exchange their dollars at the money exchange at the airport, because the longer they keep them, the more they lose.

Also when the dollar was strong, opening a foreign currency account brought a considerable profit. However, these days, one can easily suffer a huge exchange loss just by waiting.

One Kimpo Airport authority says that it is a good scene to see arrogant Americans bringing the yen instead of their own dollar. The most sensitive field is the tourist industry.

As it suffers from frequent exchange losses, the tourist industry has been placed on an emergency footing to find self-help measures.

Domestic travel agencies are busy with activities to shorten their account settlement period, which was usually 2 to 3 months, and to change their settling currency to either won or yen.

Lotte Tour recently has confirmed in its contract with Oseki Institute of Japan for a 354-member school excursion that it would be paid in yen, thus receiving traveler's checks in yen.

The Korea Area Travelers Association has recently notified Japanese travel agencies through JATA (Japan Area Travelers Association) that it would accept payment only in won and yen. Managing director of Lotte Tour, Pak Chun-ho disclosed that "Even though we can benefit from a reduced tax rate if we are paid in dollars, we have to pay value-added tax if we are paid in won. Therefore, we are suffering double damage."

Those hotels among the 18 deluxe class hotels in Seoul which had adhered to a dollar-based price system for the convenience of foreign customers, such as the Lotte, Shilla, Plaza, Walker Hill, Hyatt, and Chosun Hotels, have indicated their prices in won, for example, 112,500 won for a double bed room. All the hotels plan to change into a won-based price system from 1988.

Unexpected steep dollar depreciation has caused significant exchange losses and conflicts for domestic travel agencies, which already had invited group tours for the 1988 Olympics with their accommodations on a dollar basis.

As travel agencies have requested hotels to share exchange losses, the hotels have refused, saying that they cannot bear the losses of others while having an extreme shortage of guest rooms.

Duty free shops frequented by foreigners also had recent meetings, in which it was decided to change their price tags from a dollar basis to yen and won. In places like Itaewon the shops are charging 10 percent more to customers who pay in dollars.

Sales person Song at the ladies clothing store Siena said "It's better to be paid by traveler's check or Visa card than in dollars."

Yun of Yun's House, a store for traditional Korean furniture, disclosed "As foreigners get the impression that prices are increasing in relative terms due to appreciation of the won, sales have fallen off."

Employees working in foreign businesses in Korea who are paid on a dollar basis are taking passive wage cuts by standing still.

While foreign enterprises have been paying exchange loss allowances to their expatriate employees in Korea in order to compensate for their wage losses, they have not been paying such allowances to Korean nationals in many cases, which is becoming a point of dissatisfaction.

In addition, when domestic enterprises send employees on overseas business trips or calculate the wage levels for expatriate employees overseas, there has been conflict over whether the payment should be based on dollars or yen.

[2 Dec 87 p 7]

[Text] In the International Fashion Design Institute located in Namsan-dong, Chung-ku, Seoul, many young people are increasingly very eager to learn design.

Those who can learn fashion design hold degrees at least the junior college level or higher. In the past, designers were mostly women; however, in recent times almost one-third of the applicants are men. Design has become a popular field as the export industries in garments, toys, and shoes seek to produce high quality and high price products. As design applicants increase, the Design Institute is preparing to open in the Kangnam area in Seoul, where permits to open new institutes can be issued, and International Fashion has increased the number of its students enrolled in each semester from 20 to 30.

Tongil Renown and Tomboy have sent their designers to take courses at this institute.

This phenomenon appears not only in fashion design but also in industrial design and visual design. Three home appliance companies such as Samsung, Kumsung, and Daewoo have opened their own design institutes and strengthened their commitment to industrial design. Also, Kolon Trading Company, Dongyang Precision Industrial Company, Dongwon Electronic Company, and Ilhwa have sent their industrial designers to the Design and Package Center for study. Hyundai Automobile Company has sent two of its industrial designers to the Royal College of Arts in England.

Efforts to make high quality products that have appeared with the strengthened barriers of protectionism and import liberalization have been accelerated by the appreciation of the won. As a result, designer and quality control specialist have surfaced as promising vocations.

As demand for industrial designers has increased, industrial design and industrial arts departments are in the spotlights.

Ulsan University has reorganized its arts department within the Liberal Arts College into an industrial design department and has opened a new Formative Arts College. The industrial arts department in Seoul National University had the highest rate of competition among its 120 departments in freshman applications for 1988.

The appreciation of won has created a tendency to require changes not only in the limited front lines of exports, but also in the broader economic and social arenas.

A reorganization of industrial structure cannot be omitted as one of the economic impacts of the high won.

Even though the reorganization of industrial structures has appeared following such factors as the competitive chase of the newly developing countries with unskilled labor forces as their weapon and the high wage tendency caused by labor-management disputes, the appreciation of the won has accelerated this.

The appreciation of the won has had a great impact particularly on those industries exporting low price goods. The shoe industry is a typical example.

Even though big U.S. buyers are cooperative in unit price increases for high price items, they are extremely stingy on low price items.

As a consequence, new establishments of such industries as shoes and garments, whose establishment had been possible with a small investment, have shrunk and bankruptcies of these enterprises have subsequently ensued. At the same time, workers in these industries are restricted in their movements.

In other words, migrant workers who change their jobs according to wages are decreasing in their numbers. Entrepreneurs instead have felt the need for industrial reeducation for their workers.

Reeducation has appeared not only for the workers but also for those in managerial and sales positions. Industries which are trying to internally absorb the appreciation of the won show enthusiasm for education on primary cost management. The educational course on primary cost management provided at the Korea Productivity Headquarters is overloaded with too many student applicants.

Exporting industries are searching for a breakthrough in two aspects through structural reorganization and reeducation.

They are a strategy to produce high price goods and to strengthen domestic consumption. The pursuit of high class products has even changed the method of exporting. Those businesses, having difficulties in making profits for their exports after already having obtained strong buyers, are exerting their efforts in developing their own brands and in bringing up sales managers.

Samsung Semiconductor Company has recently sent five employees to take a course for marketing management provided by the Korea Productivity Headquarters. Kia Industry and Samyang Foods Company are also showing great interest.

Enterprises have adopted a strategy to overcome deteriorated export profitability in the area of domestic consumption. Textile companies such as Sekye Mulsan, Sokwang, and Ssangyong Enterprises have reorganized their structures to increase domestic sales. Ssangyong Inc. has also added "domestic market development" to its other measures to overcome the high wave of the high won. The appreciation of the won has brought an explosive expansion of imported goods. During the period between January and September of this year, imports of crafts made of wisteria wood have increased by 54 times, and imports of tissues have increased by 12 times. Also, imports of perfumes, electronic game machines, and ladies underwear have doubled.

The number of import agencies for U.S. goods has also skyrocketed. During the 4 months from last July to October, the Trade Agents Association received an astronomical 1,051 notifications of import agency agreements for U.S. goods.

Aided by this, U.S. enterprises have rushed into South Korea to look for agents. Therefore, more and more Americans are coming to Seoul.

Along with this, the number of South Koreans travelling abroad is also increasing. Overseas travel restrictions have been eased to allow those under 45 to travel abroad, with the travel expense allowance increasing from \$2,000 to \$5,000. Kimpo airport, gateway to South Korea, has been even more crowded with domestic and foreign travellers coming and going. The appreciation of the won, along with the 1988 Olympics, is helping to make Seoul an international city.

13269

**Economic Tasks for 6th Republic Discussed**  
*41070026 Seoul MAEIL KYONGJE SINMUN in Korean 18 Dec 87 p 3*

[Discussion between Professor Pak Chin-kun of Yonsei University and Yu Pyong-pil, director of the MAEIL KYONGJE SINMUN Political/Economic Department on economic tasks confronting the 6th Republic—date of discussion not given]

[Text] In the wake of the 16 December election, disturbing signs have emerged in various sectors of the economy. The money spent on the electioneering is pushing up

prices, and the economic order is getting lax. That is not all. Trade pressures from the United States and other advanced nations are mounting. Thus the so-called "aftermath of the election" is brewing. The following is a discussion recently held between Yu Pyong-pil, director of the Political/Economic Department of our newspaper, and Professor Pak Chin-kun of Yonsei University on the direction of economic management that the new government should follow.

[Director Yu] The presidential election which had been the focus of public attention for a while just ended. Various ill effects appeared while this election, the first direct presidential election in 16 years, was in progress. The question is how these after-effects should be minimized and how the path for a new era should be charted.

Particularly, on the economic field, the volume of currency in circulation has swollen and prices have soared, and there seem to be many other disturbing factors. Would you discuss how these disturbing factors should be addressed and in what direction the new government should orient its economic policy?

[Professor Pak] Most of the people have been in a state of excitement. This is because the candidates issued one election pledge after another during their campaigns, and the attention of the whole society was focused on the election. Now it is urgent to create an atmosphere in which the country can calm down and concentrate its efforts on economic activities.

It is also an important task to eliminate the public anxiety over the state of the economy. The volume of currency in circulation has swollen, prices have shot up, and there are even signs of speculation in spot transactions.

This psychology of uneasiness which germinated in the course of the election may not have an immediate effect, but it is possible that this psychology will operate as a brake on the development of our economy for a long time.

Accordingly, I think an overall stabilization package should be worked out to eliminate the feelings of uneasiness. When it comes to stability measures, we are apt to think of price stability alone. Needless to say, price stability is important. But it is not a panacea.

We have often seen an effort to bring stability to a particular sector causes instability to another sector. It is imperative to take an overall stability package, including measures for price stability, simultaneously in all sectors.

[Director Yu] Of all the after-effects of the election, the saturation of the market with money is the most serious problem. It becomes all the more serious because the money was supplied not for investment in production but mostly for consumption.

[Professor Pak] Prices have a close correlation with the volume of currency in circulation. As a matter of fact, even before the election, the volume of currency in circulation had increased a great deal in our country. The greatest cause of this increase was the surplus in our balance of international payments. When funds brought in from overseas flow into the market, it is bound to swell the volume of currency in circulation and put prices on an upward trend.

Worse still, the volume of currency further increased during the recently election, directly spurring an upward trend in the price level. The credit control policy strongly pursued by the government in the past has noticeably been eased, and the velocity of currency circulation has been accelerated.

To curb prices, the volume of currency must be reduced. However, the past policy of siphoning off currency through the issuance of currency stability securities has already reached its limits as interest payments on these securities begin to threaten price stability.

Therefore the policy for curbing the volume of currency in circulation from now on should begin with reducing the introduction of funds from overseas as a matter of principle. This is not to say that the scale of trade surplus which has a direct bearing on production and employment should be artificially reduced. The best way is to reduce the surplus in the capital account through an early repayment of uneconomical foreign debts and through increased overseas investment.

The credit control policy should also be reexamined. Reducing the volume of currency in the indexes alone cannot solve problems.

When the volume of currency is reduced only in the indexes, there is the possibility that it will give rise to ill effects, such as an uneven distribution of currency. All these things considered, even distribution of funds should be the focus of the currency control policy in order to avoid distortion in the allocation of funds to various sectors.

[Director Yu] Given the present condition of our economy, it seems that the problem remains what should be the optimum volume of currency in circulation.

[Professor Pak] In the past, we have gone through a lot of trial and error process by uniformly setting up the upper limit for increase in the volume of currency in circulation. However, the volume of currency should be adjusted with flexibility to suit the prevailing economic condition. Therefore, when a target is set, a certain width of margin should be allowed so that the target may be more flexible.

Moreover, I would like to suggest that consideration be given to the demand side when a target volume of currency in circulation is set. This is to say that instead

of setting a target volume of currency first and then dovetailing the actual economy to this target, the volume of currency should be adjusted in full consideration, and on the basis, of the expansion of the economy and other factors.

[Director Yu] We cannot but mention that speculation in real estate and the crash of the exchange market are the cause of the economic uneasiness. These things cannot be dissociated from the political situation, but from an economic point of view, it seems that the dirge of financial papers trade and the underdeveloped financial industry are partly responsible.

[Professor Pak] I agree. Compared with the object-economy, the financial industry in our country is lagging far behind. Given the paucity of financial commodities, a slight change in the surrounding circumstances results in the abnormal phenomenon of funds being pulled out of the financial market or being converged on a particular field.

To eliminate this anomaly, it is most urgent to foster the capital market. Needless to say, transactions in the financial market should be diversified. Particularly under the present situation in which the basic trend toward surpluses persists, the diversification of financial market transactions is a must in order, among other things, to convert funds inflows from overseas into industrial funds.

[Director Yu] When the new government sets sails in the future, the democratization or liberalization of the economy will become an issue. Most of the candidates in the recent presidential election promised to give a large measure of liberalization as an election pledge. However, some people fear that liberalization is liable to lead to disorderliness.

[Professor Pak] Of course, liberalization is the tide of the time. Liberalization should be expanded to promote efficiency. However, liberalization and disorderliness should be clearly distinguished. Just as a specific area needs support on the policy plane, so there are bound to be some fields which need a certain measure of control and intervention. There is need for policy finesse to maintain the basic trend toward liberalization and yet skilfully harmonize liberalization with control.

[Director Yu] During the election campaign, numerous economic pledges were poured out. Many pledges like one to write off farmers' loans were unrealistic, and even valid pledges, if they were to be implemented simultaneously, would distort the flow of funds and obstruct the sound management of the economy.

[Professor Pak] In implementing the pledges, it is most important to set an order of priority and put them into practice according to priority. The basic principle guiding in the determination of the order of priority is the formation of a social consensus. This is to say that the projects which are most needed should be given the first priority.



If any one of those many public pledges has no possibility of implementation, then the man who made the pledge should have the courage to postpone its implementation. The public also does not expect all of the public pledges to be implemented simultaneously. What I mean to say is that of course, all pledges should be honored, but one should not do anything that would obstruct economic development simply to save face.

[Director Yu] Trade friction is expected to further heat up in the future. The advanced countries refrained from exercising pressure during the election in our country, but their guns have now opened fire simultaneously. The trade gap, the root cause of trade friction, is further widening, bringing growing outside pressure to bear down on our country.

Given these conditions, our trade policy should be raised onto a higher plane. In the area of trade policy, the government should strive to create a climate in which importance is attached to public opinion, in keeping with political liberalization efforts. If trade problems are tackled on the basis of a national consensus instead of entrusting selected policy makers with their solution, our ability to negotiate with foreign countries will further improve.

[Director Yu] Voices demanding the readjustment of the relationship between government and business on the occasion of the inauguration of the new government are rising.

[Professor Pak] The mutual relationship between government, business, and household—triad of the economy—should be reestablished on the basis of equality.

However, to our regret, it has often been pointed out that in our country, the government has a cozy relationship with corporations. This cozy relationship between government and cooperations has given the public a bad image of business, and this in turn has caused a tendency to distrust capitalist economy.

A climate should be created in which the government sets the right direction and enterprises operate their business on their own initiative. In addition, the weight of the household sector in the economy should be increased by, for instance, establishing the independent rights of the consumer, so that the three mainstays of the economy can evenly develop.

[Director Yu] Labor disputes have been brought to a lull for now, but nobody knows when they will be rekindled. We wonder how labor disputes will develop next spring.

[Professor Pak] On the basis of the experience gained in the recent labor disputes, labor and management should strive to create an atmosphere of concession and cooperation, and all others also should try to help induce such atmosphere.

The new government, in particular, should pay more attention to problems of income distribution and strive to narrow the income gap between different strata.

[Director Yu] I think the public has much to expect from the new government. How should it prove its mettle in the future?

[Professor Pak] The new government being the first government ever chosen by the people themselves in 16 years, the public naturally sets high hope on it. The new government should have a high economic management capability in keeping with the era of surplus management, while exerting main efforts to expand trade with the communist-dominated areas, including Communist China. In particular, it is hoped that the new government will bring its ability as a democratic government into full play to expedite economic development.

13311

#### **Research Team Finds Natural Gas Layers Near Busan**

##### **Discovery Announced**

41070018 Seoul SEOUL SINMUN in Korean  
9 Dec 87 p 1

[Text] For the very first time in this country, a good quality natural gas layer was discovered in the 1-6 mining zone on the continental shelf.

Choi Chang-nak, the Minister of Energy and Resources, announced that the Korea Petroleum Development Co. had confirmed that a natural gas layer was found at a depth of 1,359-1,370 meters after a test drilling at a location about 120 km east of Busan, Dolgorae-3 area. Mr Choi said that during the production feasibility test, the estimated daily production volume was placed at 61,500 cubic meters, and that this discovery of natural gas increased the probability of finding petroleum and natural gas along the continental shelf along Korea.

Mr Minister Choi stated that the test drilling confirmed the existence of a natural gas source, but 3 more test drillings will be needed to determine the exact amount of the natural gas deposit and the economic factors.

Choi also said that, in the Dolgorae-3 test drilling site, natural gas was discovered after 15 test drillings on the continental shelf, and during the 3d and 4th of December, the bore spouted out natural gas for 10 hours.

The Petroleum Development Co. will develop a 1 km-wide by 3.8 km-long strip of the prospecting zone with an investment of 16.8 billion won and, beginning in April of 1988, will drill test wells which will aid in determining the amount of the deposit and its economic feasibility with the results scheduled to be known by the end of next year.

The area where the gas was found, was once explored by Shell of the Netherlands in 1972, when Shell drilled one well and found no petroleum. Since then, Shell had returned the exploration right. The Petroleum Development Co. initiated the exploration individually in the same area where Shell had once explored. The result was triumphant.

The natural gas produced in Dolgorae-3 is composed of 97.2 percent methane and 2.5 percent ethane and is an excellent gas. As soon as the economic factors have been proved favorable, in about 2-3 years, the gas will be supplied to domestic use through pipelines.

Apparently, since the finding of natural gas in the Dolgorae-3 zone, the government is about to expand its test drilling into Dolgorae-2 #2 district, about 4-5 acres altogether

#### **Impact Of Discovery**

41070018 Seoul CHUNGANG ILBO in Korean  
6 Dec 87 p 3

[Article by Yim Pyong-tae]

[Text] For the first time in Korea, a good quality natural gas was discovered, and Korea may become a natural gas producing country.

From 15 September to 4 December, the Petroleum Development Co. drilled test wells in the No 6 mining district on the continental shelf using domestic investment and domestic technology. The wells are located in the Dolgorae III zone where the strata thickness is 11 meters and these are reliable wells. This also proved that, on this shelf, there is a possibility of finding petroleum and natural gas.

After the Petroleum Development Co. drilled in the Dolgorae III zone to a depth of 3,215 meters, confirming the existence of gas and petroleum in 5 strata, a test drilling was carried out as a petroleum production feasibility test (DST). The test drilling showed that there is, in fact, natural gas between the depths of 1,359 meters and 1,370 meters. The gas quality is excellent.

In the exploration, 2 professors from Seoul National University, Chou Myong-kang and Pyung Tu-kwon, both of whom are petroleum engineering experts, participated and witnessed the burning of the gas on the ocean surface.

This is the first time, since 1972, that natural gas was found in the mining zone No 6. After 15 years and 15 test drillings, it was a triumph.

In 1983, there was a big commotion over petroleum being found offshore of Pohang. After the 14th test drilling on the continental shelf, a small amount of gas

and petroleum was discovered, but the circumstances are quite different this time. This test drilling has proved the economic feasibility of the project.

The Petroleum Development Co. discovered the gas in Zone VI-1. The exploration rights to that zone were once held by Shell of the Netherlands who, in 1970, carried out physical testing of 5,300km length during only one test drilling but, since no sign of gas or petroleum was found, the exploration rights were returned to the government in 1976. In 1983, the Petroleum Development Co. commenced a detailed survey in that area and concluded that there was a large deposit of natural gas there.

The Petroleum Development Co. recruited 9 engineers: 4 engineers from Harry Burton Co. of the United States and 5 Korean engineers.

According to the analysis of the experts, the natural gas discovered contains 97.21 percent methane, 2.5 percent ethane, 0.04 percent propane, and 0.25 percent carbon dioxide. This natural gas can be used directly for households, industry, and power generation. This natural gas, which contains a very low level of sulfur, is a very good quality of natural gas.

This natural gas discovery will not as yet make Korea one of the petroleum producing nations.

In order to produce natural gas, it is necessary to confirm the amount of the deposit and the economic feasibility of extracting it. By boring just one test well, the deposit size cannot be estimated, so there needs to be borings of at least 4-5 wells. The government will provide 11.6 billion won from April to November of 1988 to drill the test wells. Having drilled the test wells to determine the deposit size and to prove economic feasibility to be possible, it may be possible to supply natural gas to the consumers, the power station, and for other uses, but the pipeline must be laid and a platform and other facilities must be constructed.

However, the important facts are that the discovery of the natural gas was made possible by using Too-sung Ho [ship], which we, ourselves, built, and the test drilling was led by the Korean engineers using Korean technology. Furthermore, this discovery confirms that there is natural gas and petroleum bearing strata, and consequently it proves that there is a possibility of finding petroleum and natural gas in other parts of the continental shelf. Assuming that the natural gas was tapped, this would eliminate the cost of the enormous transportation fee for importing natural gas from abroad and for the receiving facility. A low cost, good quality natural gas which could be provided to the consumers would be beneficial to us.

The Ministry of Energy and Resources stated that the Petroleum Development Co. carried out a detailed exploration in Nos 2, 4, and 5 zones, with the exception

of 1 and 3 zones, on the continental shelf and, from these zones, 13 wells are showing promise. In 1989, in these zones, a test drilling project will be under consideration.

Along the shore of Gunsan, it is expected that there are large deposits of petroleum and natural gas.

12482

## SCIENCE & TECHNOLOGY

### Ministry of S&T Surveys Research, Development Activities

41110006d Seoul MEIL KYONGJE SINMUN in  
Korean 25 Dec 87 p 8

[Text] It has become known that amidst the accelerating effort by the government and private firms on technological revolution, the investment on science and technology and the number of research personnel have increased during the past year.

In particular it is clear that technological development activities by private firms have intensified, which include increased investment of private funds on research and development and sustained effort to secure research personnel.

According to the survey conducted by the Ministry of Science and Technology on science and technology R&D in 1986, the total investment of our nation in 1986 on science and technology research and development was 1.6 trillion won, approximately 2 percent of our GNP, showing an increase of 380.1 billion won over the 1985 figure of 1.28 trillion won (1.77 percent of GNP).

Breakdown of the investment figure by institutional types is as follows: 67 percent by businesses, 22 percent by research institutions, 11 percent by universities. Although businesses and universities show 2 percent and 1 percent increases, respectively, research institutions reflect a 2 percent decrease from 24 percent (1985) to 22 percent.

A breakdown of investment by uses shows 16.6 percent for basic research, 26.7 percent for applied research, and 56.7 percent for development. Basic and applied research reflect a decrease of 0.2 percent and 2.5 percent, respectively, from 1985, but development cost shows an increase of 2.7 percent.

In terms of the funding source, the ratio of the government/public sector and the private sector funding in 1986 was 26 percent (433.7 billion won) vs. 74 percent (1.23 trillion won) compared to the 1985 ratio of 28 percent vs. 72 percent. Thus, there are indications that the proportion of private sector investment on research and development is increasing.

The rate of R&D investment against gross sales increased to 1.35 percent in 1986 from 1.23 percent in 1985 for the private sector as a whole. In manufacturing, the rate also increased from 1.51 percent to 1.63 percent.

In electricity and electronics manufacturing, 4.19 percent of the gross sales was invested in R & D, constituting a most active level of research and development activities. In machine manufacturing and the technical service industry, however, the proportion of R&D investment has decreased in spite of increase in sales volume, indicating a stagnant level of research and development activities.

It is of particular interest to note that the proportions of R&D expenditure and research personnel occupied by the 20 top-ranking firms decreased from 52.7 percent and 36.7 percent to 48.2 percent and 31.6 percent, respectively, indicating that research and development activities are spreading more widely.

The total number of research personnel increased to 47,032 from 41,473 (1985), showing a 13.4 percent increase (5,569). The number of researchers per 10,000 persons increased from 10.1 to 11.3.

The distribution of researchers by academic degrees shows that the number of MA's and PhD's totals 24,897. This number shows a 13 percent increase over 1985 and constitutes 53 percent of the total. The number of PhD's alone totals 9,406 (20 percent), showing an 18 percent increase, which indicates the trend of specialization and advanced training of our researchers.

Broken down by institutional affiliations, 49 percent of the researchers are with business firms, showing a 3 percent increase over 1985, while the number of researchers at research institutions (16 percent) and universities (35 percent) each showed a 1 percent decrease from 1985.

In terms of specialization, 60 percent of the researchers are in engineering (a 2 percent increase over 1985), 15 percent in natural sciences, 12 percent in medicine, 8 percent in agriculture, and 5 percent in other fields.

The science and technology investment and research personnel of our nation, when compared to major advanced nations, reveal considerable gaps.

As for science and technology investments, our nation invests 1/74th and 1/23rd of what the United States and Japan invest, respectively. The rate of R&D investment against gross sales is merely one-half of the rate of advanced nations.

As for the total number of research personnel, the United States totals 790,000, which is approximately 19 times more than Korea, and Japan totals 381,000, which is 9

times more than Korea. The survey also showed that expenditure per researcher is two to four times greater in advanced nations than in Korea.

13270

**FA Research Association Organized**  
*41110006b Seoul MEIL KYONGJE SINMUN in  
Korean 25 Dec 87 p 8*

[Text] The FASA (Factory Automation System Association of Korea) was formed for the purpose of joint research development of factory automation-related technologies and new products.

Fourteen companies have formed the Factory Automation System Research Association of Korea and submitted registration forms to the Ministry of Science and Technology. The founding companies are the following 14 companies which have been participating in national automation efforts: the Posco Engineering Co., Ltd., Ssangyong Computer, Iljin Electronics, Union Systems, Korea Electronics Co. Ltd., Dongil Data Systems, Posco Electric Control Co., Ltd., Songwu Computation, Korean General Information, Applied Engineering, Korean Skada Systems, Micronics Systems, Asia Controls, and Iwel Systems.

The association recently held its inaugural meeting and elected the following persons as its officials: Chang Sehun of the Posco Engineering Co., Ltd., as the chairman of the board of directors, Kim Sukil of the Dongil Data Systems as comptroller, and Park Byongchol of the Ssangyong Computer and Kim Kihong of the Posco Electric Control Co., Ltd., as members of the board of directors.

Soon after registration, the Association plans to undertake collaborative joint research projects for the standardization of automation technologies and the development of unit automation.

13240

**Comprehensive Promotion of Computer Education Stressed**  
*41110006c Seoul MEIL KYONGJE SINMUN in  
Korean 29 Dec 87 p 15*

[Text] From 1990 computer education will be incorporated in the practical course curricula of 4th, 5th and 6th grades as well as in the technical, home economics, and business courses of middle schools.

According to the plan for computer education promotion announced by the Ministry of Education on 20 December, computer education will be reflected in practical courses of the elementary school upper grades and middle schools and offered as electives in general high schools, while it will be a general requirement in colleges and universities.

Curricula of the teacher's colleges and national colleges of education will be revised as follows: teacher's colleges will require a minimum of 2 credits as liberal arts and science requirements and 2 credits as electives; practical and home economics-related departments of national colleges of education require a minimum of 3 credits as either general or major requirements; natural science and liberal arts departments require a minimum of 3 credits as general requirements. Private colleges and universities are to follow the same guidelines as national universities.

In conjunction with this plan, the Ministry of Education intends to adopt computer education as part of the general continuing education program for teachers of elementary, middle, and high schools. For teachers of mathematics, science, and practical courses, special instruction for computers (over 60 hours) will be offered to 3,400 teachers a year, starting next year and continuing through 1996.

13270

**Ssangyong's 3-Stage Plan To Construct Group VAN**  
*41110006a Seoul MEIL KYONGJE SINMUN in  
Korean 25 Dec 87 p 8*

[Text] The Ssangyong Group has decided to construct a group VAN (Value Added Network) which will incorporate its 17 affiliated companies into 1 computer network through the use of Ssangyong computers.

According to the Ministry of Communications and industry sources, the Ssangyong Computer Company, on 25 December, obtained permission from the ministry for joint use of the designated communication lines, which will enable the company to construct an integrated information system for the Ssangyong Group. This system will increase administrative and production efficiency and avoid duplicative investments in communication systems among Ssangyong affiliates.

The Ssangyong Computer plans to promote administrative efficiency of the affiliated companies by integrating into 1 computer network the 17 affiliated companies including Ssangyong Cement and Ssangyong Refinery.

Under the overall goal of completing the computer network by 1990, Ssangyong has devised a three-stage plan. As a first step, existing central computers of affiliate companies will be interconnected by the first half of next year. As a second step, terminals will be connected to the joint computer system on a regional basis by the end of 1989.

Ssangyong Computer plans to build an independent Group VAN system which is unlike the service-rendering system that now exists and will adopt such network standards as "X.25."

13270

**Mobil-Phone Production in Full-Scale Operation**  
*41110007e Seoul MEIL KYONGJE SINMUN in*  
*Korean 24 Dec 87 p 15*

[Text]

**Portable telephones at the 1988 Olympics; Telephones in Automobiles Next Year in Pusan and Kwangju; Expansion of Wireless Calling; Circuit Industry Rushes Into Production**

An age of mobile communication is dawning on us with the expansion of wireless telephone services such as vehicular and portable telephones.

The mobile communication equipment industry holds great promise, and many firms are rushing into this field, creating tense competition in equipment distribution and technological development.

According to the Ministry of Communications and industry sources of 24 December, the administration has made a plan to expand and improve mobile communication service. This plan will make available portable telephones at the time of the 1988 Olympics, provide vehicular telephone service to Pusan and Kwangju, and expand the MCA service (method of joint frequency use), now available only to call taxis, to other businesses.

At the same time, the ministry is planning to expand the wireless dialing service and the telephone service to ships.

The ministry has completed a "modernization plan for mobile communication facilities." According to this plan, by 1991 there will be 49,050 vehicular telephone units, 132,550 wireless dialing units, and 1,500 ship-to-shore telephone units. Furthermore, mobile communication now restricted to several districts will be gradually expanded to a nationwide service by dividing the country into several regions.

This expansion plan by the ministry holds a great promise for the mobile communication equipment industry, and even the small and medium size enterprises not to mention conglomerates are rushing into this field. In the case of vehicular telephones, Samsung Semiconductors, Keumsung Electric, Hyundai Electronics, Tongyang Precision, and Dae Young Electronics are forming joint venture arrangements with foreign firms, thus creating stiff competition.

In the case of wireless telephone equipment, Now Precision, which up to now emphasized exporting, is joining Keumsung Communications and Maxon Electronics, current leaders in the field. In addition, Dongyang Precision and Hyundai Electronics are gearing up to join the competition.

As for wireless dialers, Goldstar Electric, Samsung Semiconductors, Kwanglim Electronics, and Motorola are fiercely competing for a share of the distribution market. As for the portable telephones scheduled for debut at the 1988 Olympics, Samsung Semiconductors, Keumsung Communications, Kwanglim Electronics, and Hanjin Electronics are at the stage of developing terminals and are preparing for distribution.

As for MCA which is to be serviced in Pusan on a trial basis by the Electric Communications Co., International Electronics and Daiyong Electronics are gearing up to join the field. As for walkie-talkies widely used on construction and work sites, International Electronics, Maxon Electronics, Hanjin Electronics, and Bell Electronics are all waging tough campaigns for their respective market share.

At the same time, enterprises of varying size are all actively rushing to the field of marine mobile communication equipment.

13270

**Computerization of Shipbuilding Design, Production Stressed**  
*41110007a Seoul MEIL KYONGJE SINMUN in*  
*Korean 24 Dec 87 p 11*

[Text] In collaboration with the government, the shipbuilding industry, starting next year, will jointly develop the CSDP (computerized system for shipbuilding design and production) to increase productivity and added value.

This system consists of eight electronic subsystems which include the computerization of both shipbuilding information and technical design details, the order receiving and responding system, the system of water tank and new structure designs, the specialist production designs, and the automated production control. It will be developed in three stages and finished by the year 2001.

According to the industry sources of 24 December, the development of CSDP is motivated by the reluctance of European and Japanese shipbuilders to transfer design and production technologies and the low shipbuilding productivity of Korea, which is approximately one-third of Japanese productivity.

In one respect, the development of this system is a response to the Japanese effort to adopt the CIMS system that integrates shipbuilding orders, designing, and production to recover her weakened competitiveness against Korea due to high yen.

Although the shipbuilding industry originally contemplated establishing a shipbuilding research institute as a separate institution jointly supported by the government agency, academia, industry, and the research center,

funding difficulty from government and industry made it necessary to pursue the project in its first year of development as a special project of the Ministry of Science and Technology.

For purposes of effective development of CSDP and active use of the system by shipbuilders, efforts will continue to form a development advisory council.

The Dedok shipyard, a subsidiary of the Korea Mechanical Research Center which will serve as the main promoter of the CSDP development, has completed the first-stage development plan covering through 1991.

13270

**Development of Device for Rapid Heat Treatment**  
*41110007b Seoul MEIL KYONGJE SINMUN in Korean 24 Dec 87 p 6*

[Text] A new device for rapid heat treatment has been developed which will be used in promoting silicon oxidation during the manufacture of semiconductors.

This rapid heat treatment system, developed by Dr Yi Ilwu and his team at Kyongbuk University, is a device which makes it possible to reach a high temperature quickly, maintain the temperature for a few seconds, and lower the temperature rapidly.

For the purpose of quick heating, this device uses a tungsten halogen lamp and can raise the temperature to 1,080 degrees Celsius. Cooling is accomplished by pumping cooling water through its rear side.

On the other hand, the wafer temperature is adjusted or maintained through computerized supply or control of electricity.

With the use of this system, Dr Yi and his team has succeeded in obtaining a silicon oxidation membrane of 25-270 Å (Angstrom).

13270

**Silicon Pressure Sensor for Gas Flow Measurement**  
*41110007c Seoul MEIL KYONGJE SINMUN in Korean 25 Dec 87 p 8*

[Text] A flow meter has been developed that can measure flow volume or viscosity of gas with the use of a silicon pressure sensor.

This capillary digital flow meter, developed by Professor Choe Shiyong and his team at Kyongbuk University, utilizes the property of the silicon pressure sensor whose resistance varies in proportion to pressure.

Silicon pressure sensors, installed at both ends of a capillary tubing, measure the pressure of gas at both ends. The difference in measured pressures enables the computation of gas flow volume.

Based on measurements on hydrogen and nitrogen, Prof Choe and his team confirmed that it is possible to measure flow of 1 millimeter per minute.

In addition to the measurement of flow, this device can be used for measuring viscosity of gas. Silicon pressure sensors used in this capillary digital gas flow meter are manufactured by coating a pressure element on the silicon board.

13270

**Uranium Extraction by Bacterial Leaching Possible**  
*41110007d Seoul MEIL KYONGJE SINMUN in Korean 29 Dec 87 p 6*

[Text] Efforts at developing an economic method of extracting needed minerals from ore by using microorganisms are underway in our country.

Dr Kim Chol and his team at Aju University recently demonstrated that uranium can be recovered from low grade uranium ore by using bacteria.

This method of bacteria leaching takes advantage of the phenomenon that certain special bacteria living in mines absorb inorganic substances and acquire energy necessary for subsistence and propagation through metabolic activities, leaving metallic or needed minerals in their metallic byproducts.

In their recent report, Dr Kim and his colleagues confirmed that they have collected Uranium producing bacteria (*Theiobacillus Ferrooxidans*) from the mine water troughs and identified the Ph and oxygen supply conditions suitable for propagating this bacteria.

Using this Uranium-producing bacteria, the research team has extracted Uranium of approximately 50-60 PPM [pulse position modulation].

The Uranium deposit available in our country is of low grade with 250-350 PPM content, making the currently used chemical method of extraction highly uneconomical.

When bacterial extraction of Uranium establishes itself as a reliable means, it may provide an economic method of Uranium extraction.

13270

## POLITICAL

### **Pak Song-chol, Kang Hui-won Attend Juvenile Corps Meeting**

*SK170733 Pyongyang Domestic Service in Korean  
2100 GMT 16 Feb 88*

[Text] A meeting of the national federation [chonguk yonhaptanche] of the Korean Juvenile Corps was splendidly held on the afternoon of 16 February at Pyongyang Stadium.

Respectfully placed at the front of the meeting site was a portrait of Comrade Kim Il-song, the great leader of our party and our people. The slogans reading "Long live the great leader Comrade Kim Il-song!" and "Long live the glorious WPK!" were hung at the meeting site.

Members of the honor guard of the Juvenile Corps stood at the rostrum and in front of it, holding banners of the Federation of the Juvenile Corps.

About 15,000 students, youths, new members of the Juvenile Corps of the city and students, and youths selected by each province who gathered with resolution to prepare themselves to be the heirs of the revolution boundlessly loyal to our party, participated in the meeting. Various representatives of Chongnyon staying in the socialist fatherland and members of home-visiting groups also attended the meeting.

Comrade Pak Song-chol, member of the Political Bureau of the WPK Central Committee and vice president; Comrade Kang Hui-won, candidate member of the Political Bureau of the WPK Central Committee, responsible secretary of the Pyongyang municipal party, and chairman of the Pyongyang municipal People's Committee; Comrade Ho Chong-suk, secretary of the WPK Central Committee; anti-Japanese revolutionary fighters including Paek Hak-nim, Hwang Sun-i, and O Chae-won; personages concerned including Kim Pong-chu, Choe Yong-hae, Pak Su-tong, and Yi Chong-chu; heroes of the Republic; disabled veterans; noted [irum innun] scientists, labor innovators, and athletes; and exemplary members of the Juvenile Corps appeared on the rostrum.

A ceremony of the Juvenile Corps was held first during the meeting. A report on the ranks was given by the chairman of the national federation of the Korean Juvenile Corps.

Choe Yong-hae, chairman of the Central Committee of the League of Socialist Working Youth of Korea, made an opening speech at the meeting.

The meeting began with the singing of the "Song of General Kim Il-song". A congratulatory message to be presented to the glorious party center in the name of all members of the Juvenile Corps was read at the meeting.

A ceremony for the entry of new members into the Korean Juvenile Corps was splendidly held at the meeting. A parade by members of the Juvenile Corps was also held at the meeting.

## ECONOMIC

### **Collectivism Seen as Solution to Rural Question** *41000017 Pyongyang KOREA TODAY in English Vol 2, Feb 88 pp 33-34*

[Article by Kim Sung-chun: "Rural Thesis Are a Great Programme for Solution of Socialist Rural Question"]

[Text] The great leader President Kim Il Sung published his classical work, "Theses on the Socialist Rural Question in Our Country," in February 1964. It constitutes a great programme that clarifies, on the basis of the Juche idea, the essential contents of the rural question under socialism and the central tasks, the fundamental principles and the ways and means for its solution.

He said:

"These theses on the socialist rural question are the action programme of our Party to solve the rural question finally and win the complete victory of socialism by consolidating and developing cooperative property and changing it into all-people property."

The rural theses newly elucidate the essential contents of the rural question under socialism, and, on this basis, define it as one of the central tasks for the final solution of the rural question to convert cooperative property into property of the whole people.

The rural question under socialism is how to eliminate the differences between town and country, the class distinctions between the workers and the peasants. In order to solve this problem, it is necessary to establish the undivided sway of all-people property by developing cooperative property into all-people property. This is because ownership of means of production is a prime factor in defining classes.

The form of ownership of means of production is not changed by the subjective desire of people but is changed and developed according to the character and level of social productive forces and people's ideological consciousness and technical and cultural levels.

In socialist society there exists cooperative property along with property of the whole people, because the ideological consciousness and technical and cultural standards of peasants are lower than those of the workers and because the material-technical foundations of agriculture are weaker than those of industry.

That is why the rural theses define as the main tasks the conversion of cooperative property into all-people property and the bridging of the gap in terms of ideological, technical and cultural development between peasants and workers through the three revolutions.

Socialist society is based on collectivism. Accordingly, this society, proceeding from its essential feature, requires the conversion of cooperative property into all-people property for its development.

Socialist society is based on collectivism and it is a law that everything in this society is developed so as to strengthen collectivism. Socialist society demands, therefore, that all social relations including ownership of means of production be developed in accord with the common interests and requirements of the whole society.

In socialist society, cooperative property, like all-people property, is a form of socialist property. But it is a rather less developed and socialized form than all-people property. For this reason cooperative property cannot fully meet the demands of collectivism which asks people to share life and death with each other, helping and leading each other forward, for the sake of society and collectives, and it has certain limitations in bringing the advantages of the socialist system based on collectivism into full play. Therefore, cooperative property, the low form of socialist property, must be gradually converted into highly socialized all-people property in keeping with the requirement of collectivism as the conditions are created.

The idea of the rural theses on solving the problem of ownership reflects the characteristic of the socialist system based on collectivism and its essential superiority.

The essential advantage of the socialist system is that it provides all the people with social conditions that are conducive to living and developing in accord with their independent and creative nature. If people are to live in conformity with their independent and creative nature they must be free from all manner of exploitation and oppression and live independently and creatively, sharing life and death with each other, as an eternal socio-political organism. It is only socialist society that supplies these requirements.

The rural theses also set forth the task of continuing the revolution after the establishment of the socialist system and eliminating all the residues of the old society which restrict the Chajusong (independence) of peasants.

If we are to convert cooperative property into all-people property, we must free the peasants from hard labour by industrializing agriculture through the technical revolution, and raise the ideological, technical and cultural standards of the peasants and liberate them from the fetters of obsolete ideologies and culture through the ideological and cultural revolutions.

When we remold nature, society and man on the pattern of the working class in the farming areas as indicated by the theses, social conditions will be provided in rural districts for meeting the requirements of the working class which aspires to live and develop independently and creatively in accord with human nature. Then the agricultural working people, too, will be able to lead fuller independent and creative lives, helping and leading each other forward, with ever-lasting socio-political integrity.

The rural theses set out the fundamental conditions for the successful implementation of the main tasks to be carried out to completely settle the rural question. Increasing guidance and help by the working class is essential to the successful solution of the socialist rural question. In order to discharge its historical mission, the working class, the leading class representing the communist future, must solve the rural question properly, improve the socio-economic position of the peasants on its own pattern and absorb them into communist society.

The changes in the class position of the peasants and in the socio-economic relations in farming districts after the establishment of the socialist system demand that the working class, the leading class responsible for the revolution as a whole, increase its guidance and help to the peasants as required by the Juche idea. Meanwhile, because of their class limitations, the peasants can take the socialist road and proceed to communism only with the guidance and help of the working class. That is why the theses define it as an important task for the working-class state to give every possible help to the peasants in all areas of the economic and other aspects of their lives. It is why they point to the need to establish scientific methods of management and a system of guidance.

As President Kim Il Sung has said, the struggle for the settlement of the socialist rural question to remold the peasants along working-class lines is a new type of class struggle in socialist society. The process involved is that of revolutionary change to eliminate the remnants of the old society in the rural districts and that of the victory of socialism, the new, over capitalism, the old, through struggle. Such a process of revolutionary change cannot but be that of class struggle.

Historical experience shows that if the working class weakens its guidance and fails to maintain its class stand in socialist rural construction, it cannot strengthen and develop the agricultural cooperative economic system and can endanger this system itself.

The rural theses provide a scientific action programme which reflects the essential requirements of the socialist system and supplies the correct methods of management and operation.

Comrade Kim Jong Il, Member of the Presidium of the Political Bureau, and Secretary, of the Party Central Committee, has said:



"If we follow the path indicated by our Party's Theses on the Socialist Rural Question, we shall be able to give free play to the superiority of the socialist system of agriculture.

"The cooperative economy is a socialist form of the economy which is based on the collective ownership of production means. Therefore, the method of its management must naturally be based on the principles of collectivism."

The superiority of the socialist system of agriculture is that of collectivism. If we are to give full play to it we must manage agriculture on collectivist lines.

As Comrade Kim Jong Il has pointed out, the regular method of managing and operating the socialist system is, after all, a collectivist one. The theses ask us to observe the principles of collectivism strictly not only in carrying out the main tasks for the final settlement of the rural question but also in the guidance and help to the farming areas, the methods of management and operation and the system of guidance. The rural theses demand that since cooperative property is a collective ownership, the collective concerned be fully responsible for the cooperative economy and solve for itself all the problems arising in its management and that the working class not leave the economy alone but responsibly guide and assist the rural districts in the spirit of comradely unity and cooperation. This demand was met. The result is that the peasants are reaching the standards of the working class in all fields of ideology, technology and culture. As for the management of the cooperative economy, we applied the principles of collectivism commensurate with the socialist form of the economy based on collective ownership of production means and brought the advantages of the large-scale socialist collective economy into full play.

The validity, superiority and the unchallenged vitality of the socialist rural theses have been confirmed in our country.

We have advanced along the road charted by the theses under the correct leadership of the Party, with the result that the rural question is being solved admirably without the slightest deviation in complicated situations.

Through the three revolutions the ideological and cultural standards of the peasants have risen and the material-technical foundations of agriculture have been strengthened.

Now all our Party members and non-Party people are working hard to implement completely the programme contained in the theses in the near future.

### Major Projects Record 'Big Progress'

SK061018 Pyongyang KCNA in English 1004 GMT 6 Feb 88

[Text] Pyongyang February 6 (KCNA)—Big progress has been made by Korean workers in different sectors of the national economy in the grand project in hearty response to the new year address of the great leader president Kim Il-song.

The workers of major construction projects markedly increased the construction and assembling value in January as against the same period last year: more than 1.5 times at the second-stage expansion project of the Kim Chaek iron and steel complex, 1.3 times at the construction site of the Sariwon potassic fertilizer complex and more than 1.3 times at major construction sites in the capital city, including Kwangbok street.

The hydro power stations made great strides in the project of creating a generating capacity of more than 1,200,000 kva within the first half of the year.

The Taechon and Wiwon power stations which began to produce electricity last year overfulfilled their January construction and assembling assignments in terms of value by building high dams of eternal value and hastening the assembling of new generators.

The third-stage project of the March 17 power station increased the construction and assembling value by three percent as against the same period last year. It carried out the water-way tunnel concrete coating project amounting to 1,800 cubic metres and a vast iron pipe laying project.

In the coal-mining industry, rapid progress has been made in the construction of many coal mines and pits including the Hwapung and Chongnam shafts, the Chilli and Changdong sloping pits and the August 9 pit of the Sinchang coal mine in the Anju area and the Hamyon, Soksong and Kukdong coal mines in the northern area.

At the Kim Chaek iron and steel complex, the construction projects of some 20 objects including the continuous ingot steel shop, the heating furnace, the oxygen shop have been completed in the main and the electrification and automation project of some systems has been finished through a drive to complete the second-stage expansion project of the complex within the first quarter of the year.

At the construction site of the Sunchon Vinalon complex, 209,000 cubic metres of concrete was tamped and 4,600 cubic metres of prefab materials were assembled in January through a drive to create a new "sunchon vinalon speed." especially, at the construction site of the thermal power plant, hundreds of tons of steel structures and facilities and 6,400 metres of drainage pipes were assembled and one more generator was assembled and put to trial operation.

At the construction site of the Sariwon potassic fertilizer complex, the construction preparation project has been finished in the main and the construction speed has increased 1.5 times at the project of the development of the Chongdan, Chonggye and Chongnyong mines, the sand collecting site, the laying of siding railways, the building of industrial water supply pipes and other projects.

At the construction sites of Kwangbok street and other major objects in Pyongyang, 400,000 cubic metres of earth was excavated, 20,000 cubic metres of space plastered and the project of 24 kilometres of underground facilities carried out in January. [sentence as received]

Big strides have been made at the northern railway project, the reclamation of tideland, the acquirement of new arable land and the jetting irrigation project of non-paddy fields.

#### **Boiler Begins Operation at Pyongyang Thermal Power Plant**

*SK151038 Pyongyang KCNA in English  
1028 GMT 15 Feb 88*

[Text] Pyongyang February 15 (KCNA)—A large-size boiler has been built and started operation at the Pyongyang thermal power plant. This is a large combined boiler of our style whose fuel supply, combustion system and all other processes are furnished well with modern equipment.

This boiler is very higher in production capacity and combustion efficiency than the former ones.

The builders introduced more than 800 valuable technical innovation proposals and completed the construction of the boiler which had been regarded to take three years in six months or more.

In particular, the new building methods were actively introduced in building, assembling of boiler and fuel supply system to treble the speed of the project.

30-ton all-purpose crane was made and various jigs introduced at the assembling ground of main parts to finish the assembling of the body of the boiler more than 2 months ahead of time.

Work has been done at more than 20 units of a heat project to complete the 56 kilometres of pipe project in a short time.

Dear Comrade Kim Chong-il expressed deep satisfaction with the completion of the large-size boiler in a very short span of time and showed a deep care for the builders.

#### **KCNA Reports on 'Successes' in Construction**

*SK181017 Pyongyang KCNA in English  
1010 GMT 18 Feb 88*

["Successe in Construction"—KCNA headline]

[Text] Pyongyang February 18 (KCNA)—Korea is pressing ahead with grand projects and these days holding commissioning ceremonies or trial operations of various objects at major construction sites.

Carbide kilns no. 2 and 3, two lime kilns and generator no. 3 of the Sunchon thermal power plant were completed at the Sunchon Vinalon complex, a large combined chemical industrial base.

The construction of new carbide kilns, lime kilns and generator with all their production processes modernized and automated, have made it possible to more powerfully push ahead with the construction of the Sunchon Vinalon complex.

Trial operations of the exhaust pipe ground, the fourth step down transformer substation, a preparatory ground for flat ingot, the transformer substation no. 41, major construction objects of the converter system in the second stage expansion project of the kim chaek iron and steel complex were held with the result that a breakthrough was made to complete the project within the first quarter of this year.

The Hwanghae iron and steel complex installed a large oxygen plant and continuous ingot maker.

Their installation has brought about a new upswing in the production of iron and steel at the complex.

the electrification of the Nodong-Hambuk ilsin railway section and Kim Chaek-the section in the exclusive use by the Songjin fireproof materials factory was completed.

With the switch of these railway sections over to electric traction, the transport problem in these areas has come to be solved more smoothly and inhabitants there have come to enjoy more convenience in their lives.

### **SCIENCE & TECHNOLOGY**

#### **Technical Innovation Brigades Reported Making Progress**

*SK131022 Pyongyang KCNA in English 1017 GMT 13 Feb 88*

[Text] Pyongyang February 13 (KCNA)—"April 15 technical innovation shock brigades" across Korea introduced more than 57,000 pieces of technical innovation proposals into production last year through the massive movement.

They have carried on the vigorous technical innovation movement to solve the technical problems arising in production and step up the chuche-orientation, modernization and scientification of the national economy.

The "April 15 technical innovation shock brigades" in Pyongyang carried out their technical innovation target at 141 percent last year.

The Pyongyang weaving machine plant manufactured 22 modern machines last year and the March 25 factory has

introduced robots in many processes, increasing production capacity four times and over.

Shock brigades at the Kim Chaek iron and steel complex, the Songjin steel complex and other industrial establishments in north Hamgyong province applied more than 10,000 pieces of technical innovation proposals in production last year.

Shock brigades at cooperative farms throughout the country have solved many problems arising in carrying out the technical revolution in the countryside.

10

This is a U.S. Government publication. Its contents in no way represent the policies, views, or attitudes of the U.S. Government. Users of this publication may cite FBIS or JPRS provided they do so in a manner clearly identifying them as the secondary source.

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, economic, military, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available source; it should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated. Those from English-language sources are transcribed, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names which are rendered phonetically or transliterated by FBIS/JPRS are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source.

## SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in 8 volumes: China, East Europe, Soviet Union, East Asia, Near East & South Asia, Africa (Sub-Sahara), Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications generally contain less time-sensitive information and are published periodically. Current JPRS publications are listed in *Government Reports Announcements* issued semi-monthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcovers or microfiche) at no charge through their sponsoring organizations. DOD consumers are required to submit requests through appropriate

command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.) For additional information or assistance, call FBIS, (703) 527-2368, or write to P.O. Box 2604, Washington, D.C. 20013.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. New subscribers should expect a 30-day delay in receipt of the first issue.

Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.